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Pro Arg Lys Phe Val Glu His Val Lys Ser Gln Gly His Lys Asp Lys 645 650 655

Ala Gln Glu Leu Lys Thr Leu Glu Lys Glu Thr Gly Ser Pro Asp Glu 660 665 670

Asp His Phe Ile Thr Val Asp Ala Val Gly Cys Phe Glu Ser Gly Gln 675 680 685

Glu Glu Asp Glu Asp Asp Glu Glu Glu Glu Glu Glu Glu Glu Ile 690 695 700

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Leu Gln Phe Phe Cys Tyr Ile Cys Lys Ala Ser Ser Ser Ser Gln Cys 495 Glu Phe Gln Asp His Met Ser Glu Ala Gln His Gln Gln Arg Leu C	_		Phe	Asn	Thr	Thr		Leu	Thr	Ser	Gly		Ser	Pro	Gly	Asp
Glu Phe Gln Asp His Met Ser Glu Ala Gln His Gln Gln Arg Leu G		Thr	Ser	Ala	Thr		Ala	Ile	Ala	Ser		Pro	Ser	Lys	Gln	Ser 480
-	Leu	Gln	Phe	Phe		Tyr	Ile	Cys	Lys		Ser	Ser	Ser	Ser		Gln
	Glu	Phe	Gln	_	His	Met	Ser	Glu		Gln	His	Gln	Gln		Leu	Gly

Glu Ile Gln His Ser Ser Gln Thr Cys Leu Leu Ser Leu Leu Pro Met

Pro Arg Asp Ile Leu Glu Lys Glu Ala Glu Asp Pro Pro Pro Lys Arg 530 540

Trp Cys Asn Thr Cys Gln Val Tyr Tyr Val Gly Asp Leu Ile Gln His 545 550 555 560

Arg Arg Thr Gln Glu His Lys Val Ala Lys Gln Ser Leu Arg Pro Phe 565 570 575

Cys Thr Ile Cys Asn Arg Tyr Phe Lys Thr Pro Arg Lys Phe Val Glu 580 585 590

His Val Lys Ser Gln Gly His Lys Asp Lys Ala Gln Glu Leu Lys Thr 595 600 605

Leu Glu Lys Glu Thr Gly Ser Pro Asp Glu Asp His Phe Ile Thr Val 610 620

Glu Ala Val Gly Cys Phe Glu Ser Gly Gln Glu Glu Asp Glu Asp 625 635 640

Asp Glu Glu Glu Glu Glu Glu Glu Ile Glu Ala Glu Glu Glu Phe
645 650 655

Cys Lys Gln Val Lys Pro Arg Glu Thr Ser Ser Glu Gln Gly Lys Gly 660 665 670

Ser Glu Thr Tyr Asn Pro Asn Thr Ala Tyr Gly Glu Asp Phe Leu Val 675 680 685

Pro Val Met Gly Tyr Val Cys Gln Ile Cys His Lys Phe Tyr Asp Ser 690 695 700

Asn Ser Glu Leu Arg Leu Ser His Cys Lys 705 710

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<212> PRT

<213> Homo sapiens

<400> 29

	Met 1	Phe	Ser	Gln	Gln 5	Gln	Gln	Gln	Gln	Leu 10	Gln	Gln	Gln	Gln	Gln 15	Gln
	Leu	Gln	Gln	Leu 20	Gln	Gln	Gln	Gln	Leu 25	Gln	Gln	Gln	Gln	Leu 30	Gln	Gln
	Gln	Gln	Leu 35	Leu	Gln	Leu	Gln	Gln 40	Leu	Leu	Gln	Gln	Ser 45	Pro	Pro	Gln
	Ala	Pro 50	Leu	Pro	Met	Ala	Val 55	Ser	Arg	Gly	Leu	Pro 60	Pro	Gln	Gln	Pro
***	Gln 65	Gln	Pro	Leu	Leu	Asn 70	Leu	Gln	Gly	Thr	Asn 75	Ser	Ala	Ser	Leu	Leu 80
	Asn	Gly	Ser	Met	Leu 85	Gln	Arg	Ala	Leu	Leu 90	Leu	Gln	Gln	Leu	Gln 95	Gly
	Leu	Asp	Gln	Phe 100	Ala	Met	Pro	Pro	Ala 105	Thr	Tyr	Asp	Thr	Ala 110	Gly	Leu
	Thr	Met	Pro 115	Thr	Ala	Thr	Leu	Gly 120	Asn	Leu	Arg	Gly	Tyr 125	Gly	Met	Ala
	Ser	Pro 130	Gly	Leu	Ala	Ala	Pro 135	Ser	Leu	Thr	Pro	Pro 140	Gln	Leu	Ala	Thr
	Pro 145	Asn	Leu	Gln	Gln	Phe 150	Phe	Pro	Gln	Ala	Thr 155	Arg	Gln	Ser	Leu	Leu 160
	Gly	Pro	Pro	Pro	Val 165	Gly	Vál	Pro	Met	Asn 170	Pro	Ser	Gln	Phe	Asn 175	Leu
	Ser	Gly	Arg	Asn 180	Pro	Gln	Lys	Gln	Ala 185	Arg	Thr	Ser	Ser	Ser 190	Thr	Thr
	Pro	Asn	Arg 195	Lys	Asp	Ser	Ser	Ser 200	Gln	Thr	Met	Pro	Val 205	Glu	Asp	Lys
	Ser	Asp 210	Pro	Pro	Glu	Gly	Ser 215	Glu	Glu	Ala	Ala	Glu 220	Pro	Arg	Met	Asp
	Thr	Pro	Glu	Asp	Gln	Asp	Leu	Pro	Pro	Cys	Pro	Glu	Asp	Ile	Ala	Lys

Glu Lys	Arg	Thr	Pro	Ala	Pro	Glu	Pro	Glu	Pro	Cys	Glu	Ala	Ser	Glu
			245					250					255	

- Leu Pro Ala Lys Arg Leu Arg Ser Ser Glu Glu Pro Thr Glu Lys Glu
 260 265 270
- Pro Pro Gly Gln Leu Gln Val Lys Ala Gln Pro Gln Ala Arg Met Thr 275 280 285
- Val Pro Lys Gln Thr Gln Thr Pro Asp Leu Leu Pro Glu Ala Leu Glu 290 295 300
 - Ala Gln Val Leu Pro Arg Phe Gln Pro Arg Val Leu Gln Val Gln Ala 305 310 315 320
 - Gln Val Gln Ser Gln Thr Gln Pro Arg Ile Pro Ser Thr Asp Thr Gln 325 330 335
 - Val Gln Pro Lys Leu Gln Lys Gln Ala Gln Thr Gln Thr Ser Pro Glu 340 345 350
 - His Leu Val Leu Gln Gln Lys Gln Val Gln Pro Gln Leu Gln Gln Glu 355 360 365
 - Ala Glu Pro Gln Lys Gln Val Gln Pro Gln Val Gln Pro Gln Ala His 370 375 380
 - Ser Gln Gly Pro Arg Gln Val Gln Leu Gln Gln Glu Ala Glu Pro Leu 385 390 395 400
 - Lys Gln Val Gln Pro Gln Val Gln Pro Gln Ala His Ser Gln Pro Pro 405 410 415
 - Arg Gln Val Gln Leu Gln Leu Gln Lys Gln Val Gln Thr Gln Thr Tyr 420 425 430
 - Pro Gln Val His Thr Gln Ala Gln Pro Ser Val Gln Pro Gln Glu His
 435
 440
 445
 - Pro Pro Ala Gln Val Ser Val Gln Pro Pro Glu Gln Thr His Glu Gln 450 455 460

Pro 465	His	Thr	Gln	Pro	Gln 470	Val	Ser	Leu	Leu	Ala 475	Pro	Glu	Gln	Thr	Pro 480
Val	Val	Val	His	Val 485	Cys	Gly	Leu	Glu	Met 490	Pro	Pro	Asp	Ala	Val 495	Glu
Ala	Gly	Gly	Gly 500	Met	Glu	Lys	Thr	Leu 505	Pro	Glu	Pro	Val	Gly 510	Thr	Gln
Val	Ser	Met 515	Glu	Glu	Ile	Gln	Asn 520	Glu	Ser	Ala	Cys	Gly 525	Leu	Asp	Val
Gly	Glu 530	Cys	Glu	Asn	Arg	Ala 535	Arg	Glu	Met	Pro	Gly 540	Val	Trp	Gly	Ala
Gly 545	Gly	Ser	Leu	Lys	Val 550	Thr	Ile	Leu	Gln	Ser 555	Ser	Asp	Ser	Arg	Ala 560
Phe	Ser	Thr	Val	Pro 565	Leu	Thr	Pro	Val	Pro 570	Arg	Pro	Ser	Asp	Ser 575	Val
Ser	Ser	Thr	Pro 580	Ala	Ala	Thr	Ser	Thr 585	Pro	Ser	Lys	Gln	Ala 590	Leu	Gln
Phe	Phe	Cys 595	Tyr	Ile	Cys	Lys	Ala 600	Ser	Cys	Ser	Ser	Gln 605	Gln	Glu	Phe
Gln	Asp 610	His	Met	Ser	Glu	Pro 615	Gln	His	Gln	Gln	Arg 620	Leu	Gly	Glu	Ile
Gln 625	His	Met	Ser	Gln	Ala 630	Cys	Leu	Leu	Ser	Leu 635	Leu	Pro	Val	Pro	Arg 640
Asp	Val	Leu	Glu	Thr 645	Glu	Asp	Glu	Glu	Pro 650	Pro	Pro	Arg	Arg	Trp 655	Cys
Asn	Thr	Cys	Gln 660	Leu	Tyr	Tyr	Met	Gly 665	Asp	Leu	Ile	Gln	His 670	Arg	Arg
Thr	Gln	Asp 675	His	Lys	Ile	Ala	Lys 680	Gln	Ser	Leu	Arg	Pro 685	Phe	Cys	Thr

Val Cys Asn Arg Tyr Phe Lys Thr Pro Arg Lys Phe Val Glu His Val Lys Ser Gln Gly His Lys Asp Lys Ala Lys Glu Leu Lys Ser Leu Glu Lys Glu Ile Ala Gly Gln Asp Glu Asp His Phe Ile Thr Val Asp Ala Val Gly Cys Phe Glu Gly Asp Glu Glu Glu Glu Asp Asp Glu Asp Glu Glu Glu Ile Glu Val Glu Glu Leu Cys Lys Gln Val Arg Ser Arg Asp Ile Ser Arg Glu Glu Trp Lys Gly Ser Glu Thr Tyr Ser Pro Asn Thr Ala Tyr Gly Val Asp Phe Leu Val Pro Val Met Gly Tyr Ile Cys Arg Ile Cys His Lys Phe Tyr His Ser Asn Ser Gly Ala Gln Leu Ser His Cys Lys Ser Leu Gly His Phe Glu Asn Leu Gln Lys Tyr Lys Ala Ala Lys Asn Pro Ser Pro Thr Thr Arg Pro Val Ser Arg Arg Cys Ala Ile Asn Ala Arq Asn Ala Leu Thr Ala Leu Phe Thr Ser Ser Gly Arg Pro Pro Ser Gln Pro Asn Thr Gln Asp Lys Thr Pro Ser Lys Val Thr Ala Arg Pro Ser Gln Pro Pro Leu Pro Arg Arg Ser Thr Arg Leu

Lys Thr

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150

145

Gly Pro Pro Pro Val Gly Val Pro Met Asn Pro Ser Gln Phe Asn Leu 165 170 175

160

Ser Gly Arg Asn Pro Gln Lys Gln Ala Arg Thr Ser Ser Ser Thr Thr 180 185 190

Pro Asn Arg Lys Asp Ser Ser Ser Gln Thr Met Pro Val Glu Asp Lys
195 200 205

Ser	Asp 210	Pro	Pro	Glu	Gly	Ser 215	Glu	Glu	Ala	Ala	Glu 220	Pro	Arg	Met	Asp
Thr 225	Pro	Glu	Asp	Gln	Asp 230	Leu	Leu	Pro	Cys	Pro 235	Glu	Asp	Ile	Ala	Lys 240
Glu	Lys	Arg	Thr	Pro 245	Ala	Pro	Glu	Pro	Glu 250	Pro	Cys	Glu	Ala	Ser 255	Glu
Leu	Pro	Ala	Lys 260	Arg	Leu	Arg	Ser	Ser 265	Glu	Glu	Pro	Thr	Glu 270	Lys	Glu
Pro	Pro	Gly 275	Gln	Leu	Gln	Val	Lys 280	Ala	Gln	Pro	Gln	Ala 285	Arg	Met	Thr
Val	Pro 290	Lys	Gln	Thr	Gln	Thr 295	Pro	Asp	Leu	Leu	Pro 300	Glu	Ala	Leu	Glu
Ala 305	Gln	Val	Leu	Pro	Arg 310	Phe	Gln	Pro	Arg	Val 315	Leu	Gln	Val	Gln	Ala 320
Gln	Val	Gln	Ser	Gln 325	Thr	Gln	Pro	Arg	Ile 330	Pro	Ser	Thr	Asp	Thr 335	Gln
Val	Gln	Pro	Lys 340	Leu	Gln	Lys	Gln	Ala 345	Gln	Thr	Gln	Thr	Ser 350	Pro	Glu
His	Leu	Val 355	Leu	Gln	Gln	Lys	Gln 360	Val	Gln	Pro	Gln	Leu 365	Gln	Gln	Glu
Ala	Glu 370	Pro	Gln	Lys	Gln	Val 375	Gln	Pro	Gln	Val	Gln 380	Pro	Gln	Ala	His
Ser 385	Gln	Gly	Pro	Arg	Gln 390	Val	Gln	Leu	Gln	Gln 395	Glu	Ala	Glu	Pro	Leu 400
Lys	Gln	Val	Gln	Pro 405	Gln	Val	Gln	Pro	Gln 410	Ala	His	Ser	Gln	Pro 415	Pro
Arg	Gln	Val	Gln 420	Leu	Gln	Leu	Gln	Lys 425	Gln	Val	Gln	Thr	Gln 430	Thr	Tyr

P	ro	Gln	Val 435	His	Thr	Gln	Ala	Gln 440	Pro	Ser	Val	Gln	Pro 445	Gln	Glu	His
P	ro	Pro 450	Ala	Gln	Val	Ser	Val 455	Gln	Pro	Pro	Glu	Gln 460	Thr	His	Glu	Gln
	ro 65	His	Thr	Gln	Pro	Gln 470	Val	Ser	Leu	Leu	Ala 475	Pro	Glu	Gln	Thr	Pro 480
v	al	Val	Val	His	Val 485	Cys	Gly	Leu	Glu	Met 490	Pro	Pro	Asp	Ala	Val 495	Glu
A	la	Gly	Gly	Gly 500	Met	Glu	Lys	Thr	Leu 505	Pro	Glu	Pro	Val	Gly 510	Thr	Gln
V	al	Ser	Met 515	Glu	Glu	Ile	Gln	Asn 520	Glu	Ser	Ala	Cys	Gly 525	Leu	Asp	Val
G	ly	Glu 530	Cys	Glu	Asn	Arg	Ala 535	Arg	Glu	Met	Pro	Gly 540	Val	Trp	Gly	Ala
	ly 45	Gly	Ser	Leu	Lys	Val 550	Thr	Ile	Leu	Gln	Gly 555	Ser	Asp	Ser	Arg	Ala 560
P	he	Ser	Thr	Val	Pro 565	Leu	Thr	Pro	Val	Pro 570	Arg	Pro	Ser	Asp	Ser 575	Val
S	er	Ser	Thr	Pro 580	Ala	Ala	Thr	Ser	Thr 585	Pro	Ser	Lys	Gln	Ala 590	Leu	Gln
P	he	Phe	Cys 595	Tyr	Ile	Cys	Lys	Ala 600	Ser	Cys	Ser	Ser	Gln 605	Gln	Glu	Phe
G	ln	Asp 610	His	Met	Ser	Glu	Pro 615	Gln	His	Gln	Gln	Arg 620	Leu	Gly	Glu	Ile
	ln 25	His	Met	Ser	Gln	Ala 630	Cys	Leu	Leu	Ser	Leu 635	Leu	Pro	Val	Pro	Arg 640
A	sp	Val	Leu	Glu	Thr 645	Glu	Asp	Glu	Glu	Pro 650	Pro	Pro	Arg	Arg	Trp 655	Cys

Asn	Thr	Cys	Gln 660	Leu	Tyr	Tyr	Met	Gly 665	Asp	Leu	Ile	Gln	His 670	Arg	Arg
Thr	Gln	Asp 675	His	Lys	Ile	Ala	Lys 680	Gln	Ser	Leu	Arg	Pro 685	Phe	Cys	Thr
Val	Cys 690	Asn	Arg	Tyr	Phe	Lys 695	Thr	Pro	Arg	Lys	Phe 700	Val	Glu	His	Val
Lys 705	Ser	Gln	Gly	His	Lys 710	Asp	Lys	Ala	Lys	Glu 715	Leu	Lys	Ser	Leu	Glu 720
 Lys	Glu	Ile	Ala	Gly 725	Gln	Asp	Glu	Asp	His 730	Phe	Ile	Thr	Val	Asp 735	Ala
Val	Gly	Cys	Phe 740	Glu	Gly	Asp	Glu	Glu 745	Glu	Glu	Glu	Asp	Asp 750	Glu	Asp
Glu	Glu	Glu 755	Ile	Glu	Val	Glu	Glu 760	Glu	Leu	Cys	Lys	Gln 765	Val	Arg	Ser
Arg	Asp 770	Ile	Ser	Arg	Glu	Glu 775	Trp	Lys	Gly	Ser	Glu 780	Thr	Tyr	Ser	Pro
Asn 785	Thr	Ala	Tyr	Gly	Val 790	Asp	Phe	Leu	Val	Pro 795	Val	Met	Gly	Tyr	Ile 800
Cys	Arg	Ile	Cys	His 805	Lys	Phe	Tyr	His	Ser 810	Asn	Ser	Gly	Ala	Gln 815	Leu
Ser	His	Cys	Lys 820	Ser	Leu	Gly	His	Phe 825	Glu	Asn	Leu	Gln	Lys 830	Tyr	Lys
Ala	Ala	Lys 835	Asn	Pro	Ser	Pro	Thr 840	Thr	Arg	Pro	Val	Ser 845	Arg	Arg	Cys
Ala	Ile 850	Asn	Ala	Arg	Asn	Ala 855	Leu	Thr	Ala	Leu	Phe 860	Thr	Ser	Ser	Gly
Arg 865	Pro	Pro	Ser	Gln	Pro 870	Asn	Thr	Gln	Asp	Lys 875	Thr	Pro	Ser	Lys	Val 880
Thr	Ala	Arg	Pro	Ser	Gln	Pro	Pro	Leu	Pro	Arg	Arg	Ser	Thr	Arg	Leu

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Lys Thr

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<211> 896

<212> PRT

<213> Homo sapiens

<400> 31

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Ser Leu Gln Leu Gln Gln Leu Leu Gln Gln Ser Pro Pro Gln Ala Pro 35 40 45

Leu Pro Met Ala Val Ser Arg Gly Leu Pro Pro Gln Gln Pro Gln Gln 50 55 60

Pro Leu Leu Asn Leu Gln Gly Thr Asn Ser Ala Ser Leu Leu Asn Gly 65 70 75 80

Ser Met Leu Gln Arg Ala Leu Leu Leu Gln Gln Leu Gln Gly Leu Asp 85 90 95

Gln Phe Ala Met Pro Pro Ala Thr Tyr Asp Thr Ala Gly Leu Thr Met 100 105 110

Pro Thr Ala Thr Leu Gly Asn Leu Arg Gly Tyr Gly Met Ala Ser Pro 115 120 125

Gly Leu Ala Ala Pro Ser Leu Thr Pro Pro Gln Leu Ala Thr Pro Asn 130 135 140

Leu Gln Gln Phe Phe Pro Gln Ala Thr Arg Gln Ser Leu Leu Gly Pro 145 150 155 160

Pro Pro Val Gly Val Pro Met Asn Pro Ser Gln Phe Asn Leu Ser Gly
165 170 175

	Arg	Asn	Pro	Gln 180	Lys	Gln	Ala	Arg	Thr 185	Ser	Ser	Ser	Thr	Thr 190	Pro	Asn
	Arg	Lys	Asp 195	Ser	Ser	Ser	Gln	Thr 200	Met	Pro	Val	Glu	Asp 205	Lys	Ser	Asp
	Pro	Pro 210	Glu	Gly	Ser	Glu	Glu 215	Ala	Ala	Glu	Pro	Arg 220	Met	Asp	Thr	Pro
-	Glu 225	Asp	Gln	Asp	Leu	Pro 230	Pro	Cys	Pro	Glu	Asp 235	Ile	Ala	Lys	Glu	Lys 240
	Arg	Thr	Pro	Ala	Pro 245	Glu	Pro	Glu	Pro	Cys 250	Glu	Ala	Ser	Glu	Leu 255	Pro
	Ala	Lys	Arg	Leu 260	Arg	Ser	Ser	Glu	Glu 265	Pro	Thr	Glu	Lys	Glu 270	Pro	Pro
	Gly	Gln	Leu 275	Gln	Val	Lys	Ala	Gln 280	Pro	Gln	Ala	Arg	Met 285	Thr	Val	Pro
	Lys	Gln 290	Thr	Gln	Thr	Pro	Asp 295	Leu	Leu	Pro	Glu	Ala 300	Leu	Glu	Ala	Gln
	Val 305	Leu	Pro	Arg	Phe	Gln 310	Pro	Arg	Val	Leu	Gln 315	Val	Gln	Ala	Gln	Val 320
	Gln	Ser	Gln	Thr	Gln 325	Pro	Arg	Ile	Pro	Ser 330	Thr	Asp	Thr	Gln	Val 335	Gln
	Pro	Lys	Leu	Gln 340	Lys	Gln	Ala	Gln	Thr 345	Gln	Thr	Ser	Pro	Glu 350	His	Leu
	Val	Leu	Gln 355	Gln	Lys	Gln	Val	Gln 360	Pro	Gln	Leu	Gln	Gln 365	Glu	Ala	Glu
	Pro	Gln 370	Lys	Gln	Val	Gln	Pro 375	Gln	Val	Gln	Pro	Gln 380	Ala	His	Ser	Gln
	Gly 385	Pro	Arg	Gln	Val	Gln 390	Leu	Gln	Gln	Glu	Ala 395	Glu	Pro	Leu	Lys	Gln 400

Val	Gln	Pro	Gln	Val 405	Gln	Pro	Gln	Ala	His 410	Ser	Gln	Pro	Pro	Arg 415	Gln
Val	Gln	Leu	Gln 420	Leu	Gln	Lys	Gln	Val 425	Gln	Thr	Gln	Thr	Tyr 430	Pro	Gln
Val	His	Thr 435	Gln	Ala	Gln	Pro	Ser 440	Val	Gln	Pro	Gln	Glu 445	His	Pro	Pro
Ala	Gln 450	Val	Ser	Val	Gln	Pro 455	Pro	Glu	Gln	Thr	His 460	Glu	Gln	Pro	His
Thr 465	Gln	Pro	Gln	Val	Ser 470	Leu	Leu	Ala	Pro	Glu 475	Gln	Thr	Pro	Val	Val 480
Val	His	Val	Cys	Gly 485	Leu	Glu	Met	Pro	Pro 490	Asp	Ala	Val	Glu	Ala 495	Gly
Gly	Gly	Met	Glu 500	Lys	Thr	Leu	Pro	Glu 505	Pro	Val	Gly	Thr	Gln 510	Val	Ser
Met	Glu	Glu 515	Ile	Gln	Asn	Glu	Ser 520	Ala	Cys	Gly	Leu	Asp 525	Val	Gly	Glu
Cys	Glu 530	Asn	Arg	Ala	Arg	Glu 535	Met	Pro	Gly	Val	Trp 540	Gly	Ala	Gly	Gly
Ser 545	Leu	Lys	Val	Thr	Ile 550	Leu	Gln	Ser	Ser	Asp 555	Ser	Arg	Ala	Phe	Ser 560
Thr	Val	Pro	Leu	Thr 565	Leu	Val	Pro	Arg	Pro 570	Ser	Asp	Ser	Val	Ser 575	Ser
Thr	Pro	Ala	Ala 580	Thr	Ser	Thr	Pro	Ser 585	Lys	Gln	Ala	Leu	Gln 590	Phe	Phe
Cys	Tyr	Ile 595	Cys	Lys	Ala	Ser	Cys 600	Ser	Ser	Gln	Gln	Glu 605	Phe	Gln	Asp
His	Met 610	Ser	Glu	Pro	Gln	His 615	Gln	Gln	Arg	Leu	Gly 620	Glu	Ile	Gln	His
Met	Ser	Gln	Ala	Cys	Leu	Leu	Pro	Leu	Leu	Pro	Val	Pro	Arg	Asp	Val

Leu Glu Thr Glu Asp Glu Glu Pro Pro Pro Arg Arg Trp Cys Asn Thr 645 650 655

Cys Gln Leu Tyr Tyr Met Gly Asp Leu Ile Gln His Arg Arg Thr Gln 660 665 670

Asp His Lys Ile Ala Lys Gln Ser Leu Arg Pro Phe Cys Thr Val Cys 675 680 685

Asn Arg Tyr Phe Lys Thr Pro Arg Lys Phe Val Glu His Val Lys Ser 690 695 700

Gln Gly His Lys Asp Lys Ala Lys Glu Leu Lys Ser Leu Glu Lys Glu 705 710 715 720

Ile Ala Gly Gln Asp Glu Asp His Phe Ile Thr Val Gly Ala Val Gly 725 730.735

Cys Phe Glu Gly Asp Glu Glu Glu Glu Glu Asp Asp Glu Asp Glu Glu 740 745 750

Glu Ile Glu Val Glu Glu Glu Leu Cys Lys Gln Val Arg Ser Arg Asp 755 760 765

Ile Ser Arg Glu Glu Trp Lys Gly Ser Glu Thr Tyr Ser Pro Asn Thr 770 775 780

Ala Tyr Gly Val Asp Phe Leu Val Pro Val Met Gly Tyr Ile Cys Arg 785 790 795 800

Ile Cys His Lys Phe Tyr His Ser Asn Ser Gly Ala Gln Leu Ser His 805 810 815

Cys Lys Ser Leu Gly His Phe Glu Asn Leu Gln Lys Tyr Lys Ala Ala 820 825 830

Lys Asn Pro Ser Pro Thr Thr Arg Pro Val Ser Arg Arg Cys Ala Ile 835 840 845

Asn Ala Arg Asn Ala Leu Thr Ala Leu Phe Thr Ser Ser Gly Arg Pro 850 855 860

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Pro Ser Gln Pro Asn Thr Gln Asp Lys Thr Pro Ser Lys Val Thr Ala

875

155

150

Gly	Pro	Pro	Pro	Val 165	Gly	Val	Pro	Met	Asn 170	Pro	Ser	Gln	Phe	Asn 175	Leu
Ser	Gly	Arg	Asn 180	Pro	Gln	Lys	Gln	Ala 185	Arg	Thr	Ser	Ser	Ser 190	Thr	Thr
Pro	Asn	Arg 195	Lys	Asp	Ser	Ser	Ser 200	Gln	Thr	Met	Pro	Val 205	Glu	Asp	Lys
Ser	Asp 210	Pro	Pro	Glu	Gly	Ser 215	Glu	Glu	Ala	Ala	Glu 220	Pro	Arg	Met	Asp
Thr 225	Pro	Glu	Asp	Gln	Asp 230	Leu	Pro	Pro	Cys	Pro 235	Glu	Asp	Ile	Ala	Lys 240
Glu	Lys	Arg	Thr	Pro 245	Ala	Pro	Glu	Pro	Glu 250	Pro	Cys	Glu	Ala	Ser 255	Glu
Leu	Pro	Ala	Lys 260	Arg	Leu	Arg	Ser	Ser 265	Glu	Glu	Pro	Thr	Glu 270	Lys	Glu
Pro	Pro	Gly 275	Gln	Leu	Gln	Val	Lys 280	Ala	Gln	Pro	Gln	Ala 285	Arg	Met	Thr
Val	Pro 290	Lys	Gln	Thr	Gln	Thr 295	Pro	Asp	Leu	Leu	Pro 300	Glu	Ala	Leu	Glu
Ala 305	Gln	Val	Leu	Pro	Arg 310	Phe	Gln	Pro	Arg	Val 315	Leu	Gln	Val	Gln	Ala 320
Gln	Val	Gln	Ser	Gln 325	Thr	Gln	Pro	Arg	Ile 330	Pro	Ser	Thr	Asp	Thr 335	Gln
Val	Gln	Pro	Lys 340	Leu	Gln	Lys	Gln	Ala 345	Gln	Thr	Gln	Thr	Ser 350	Pro	Glu
His	Leu	Val 355	Leu	Gln	Gln	Lys	Gln 360	Val	Gln	Pro	Gln	Leu 365	Gln	Gln	Glu.
Ala	Glu 370	Pro	Gln	Lys	Gln	Val 375	Gln	Pro	Gln	Val	His 380	Thr	Gln	Ala	Gln
Pro	Ser	Val	Gln	Pro	Gln	Glu	His	Pro	Pro	Ala	Gln	Val	Ser	Val	Gln

385	390	395	400
303	390	393	400

Pro	Pro	Glu	Gln	Thr	His	Glu	Gln	Pro	Hıs	Thr	Gin	Pro	GIn	Val	Ser
				405					410					415	

- Leu Leu Ala Pro Glu Gln Thr Pro Val Val Val His Val Cys Gly Leu
 420 425 430
- Glu Met Pro Pro Asp Ala Val Glu Ala Gly Gly Gly Met Glu Lys Thr 435 440 445
- Leu Pro Glu Pro Val Gly Thr Gln Val Ser Met Glu Glu Ile Gln Asn 450 455 460
- Glu Ser Ala Cys Gly Leu Asp Val Gly Glu Cys Glu Asn Arg Ala Arg 465 470 475 480
- Glu Met Pro Gly Val Trp Gly Ala Gly Gly Ser Leu Lys Val Thr Ile 485 490 495
- Leu Gln Ser Ser Asp Ser Arg Ala Phe Ser Thr Val Pro Leu Thr Pro 500 505 510
- Val Pro Arg Pro Ser Asp Ser Val Ser Ser Thr Pro Ala Ala Thr Ser 515 520 525
- Thr Pro Ser Lys Gln Ala Leu Gln Phe Phe Cys Tyr Ile Cys Lys Ala 530 535 540
- Ser Cys Ser Ser Gln Gln Glu Phe Gln Asp His Met Ser Glu Pro Gln 545 550 555 560
- His Gln Gln Arg Leu Gly Glu Ile Gln His Met Ser Gln Ala Cys Leu 565 570 575
- Leu Ser Leu Leu Pro Met Pro Arg Asp Val Leu Glu Thr Glu Asp Glu 580 585 590
- Glu Pro Pro Pro Arg Arg Trp Cys Asn Thr Cys Gln Leu Tyr Tyr Met 595 600 605
- Gly Asp Leu Ile Gln His Arg Arg Thr Gln Asp His Lys Val Ala Lys 610 615 620

Gln 625	Pro	Leu	Arg	Pro	Phe 630	Cys	Thr	Val	Cys	Asn 635	Arg	Tyr	Phe	Lys	Thr 640
Pro	Arg	Lys	Phe	Val 645	Glu	His	Val	Lys	Ser 650	Gln	Gly	His	Lys	Asp 655	Lys
Ala	Lys	Glu	Leu 660	Lys	Ser	Leu	Glu	Lys 665	Glu	Ile	Ala	Gly	Gln 670	Asp	Glu
 Asp	His	Phe 675	Ile	Thr	Val	Asp	Ala 680	Val	Gly	Cys	Phe	Glu 685	Gly	Asp	Glu
Glu	Glu 690	Glu	Glu	Asp	Asp	Glu 695	Asp	Glu	Glu	Glu	Ile 700	Lys	Val	Glu	Glu
Glu 705	Leu	Cys	Lys	Gln	Val 710	Arg	Ser	Arg	Asp	Ile 715	Ser	Arg	Glu	Glu	Trp 720
Lys	Gly	Ser	Glu	Thr 725	Tyr	Ser	Pro	Asn	Thr 730	Ala	Tyr	Gly	Val	Asp 735	Phe
Leu	Val	Pro	Val 740	Met	Gly	Tyr	Ile	Cys 745	Arg	Ile	Cys	His	Lys 750	Phe	Tyr
His	Ser	Asn 755	Ser	Gly	Ala	Gln	Leu 760	Ser	His	Cys	Lys	Ser 765	Leu	Gly	His
Phe	Glu 770	Asn	Leu	Gln	Lys	Tyr 775	Lys	Ala	Ala	Lys	Asn 780	Pro	Ser	Pro	Thr
Thr 785	Arg	Pro	Val	Ser	Arg 790	Arg	Cys	Ala	Ile	Asn 795	Ala	Arg	Asn	Ala	Leu 800
Thr	Ala	Leu	Phe	Thr 805	Ser	Ser	Gly	Arg	Pro 810	Pro	Ser	Gln	Pro	Asn 815	Thr
Gln	Asp	Lys	Thr 820	Pro	Ser	Lys	Val	Thr 825	Ala	Arg	Pro	Ser	Gln 830	Pro	Pro
Leu	Pro	Arg 835	Arg	Ser	Thr	Arg	Leu 840	Lys	Thr						

<210> 33

<211> 837

<212> PRT

<213> Homo sapiens

<400> 33

Met Phe Ser Gln Gln Gln Gln Gln Gln Leu Gln Gln Gln Gln Ala 1 5 10 15

Pro Leu Pro Met Ala Val Ser Arg Gly Leu Pro Pro Gln Gln Pro Gln 20 25 30

Gln Pro Leu Leu Asn Leu Gln Gly Thr Asn Ser Ala Ser Leu Leu Asn 35 40 45

Gly Ser Met Leu Gln Arg Ala Leu Leu Gln Gln Leu Gln Gly Leu 50 55 60

Asp Gln Phe Ala Met Pro Pro Ala Thr Tyr Asp Thr Ala Gly Leu Thr 65 70 75 80

Met Pro Thr Ala Thr Leu Gly Asn Leu Arg Gly Tyr Gly Met Ala Ser 85 90 95

Pro Gly Leu Ala Ala Pro Ser Leu Thr Pro Pro Gln Leu Ala Thr Pro 100 105 110

Asn Leu Gln Gln Phe Phe Pro Gln Ala Thr Arg Gln Ser Leu Leu Gly 115 120 125

Pro Pro Pro Val Gly Val Pro Met Asn Pro Ser Gln Phe Asn Leu Ser 130 135 140

Gly Arg Asn Pro Gln Lys Gln Ala Arg Thr Ser Ser Ser Thr Thr Pro 145 150 155 160

Asn Arg Lys Asp Ser Ser Ser Gln Thr Met Pro Val Glu Asp Lys Ser 165 170 175

Asp Pro Pro Glu Gly Ser Glu Glu Ala Ala Glu Pro Arg Met Asp Thr 180 185 190

Pro Glu Asp Gln Asp Leu Pro Pro Cys Pro Glu Asp Ile Ala Lys Glu

195 200 205

Lys	Arg 210	Thr	Pro	Ala	Pro	Glu 215	Pro	Glu	Pro	Cys	Glu 220	Ala	Ser	Glu	Leu
Pro 225	Ala	Lys	Arg	Leu	Arg 230	Ser	Ser	Glu	Glu	Pro 235	Thr	Glu	Lys	Glu	Pro 240
Pro	Gly	Gln	Leu	Gln 245	Val	Lys	Ala	Gln	Pro 250	Gln	Ala	Arg	Met	Thr 255	Val
Pro	Lys	Gln	Thr 260	Gln	Thr	Pro	Asp	Leu 265	Leu ,	Pro	Glu	Ala	Leu 270	Glu	Ala
Gln	Val	Leu 275	Pro	Arg	Phe	Gln	Pro 280	Arg	Val	Leu	Gln	Val 285	Gln	Ala	Gln
Val	Gln 290	Ser	Gln	Thr	Gln	Pro 295	Arg	Ile	Pro	Ser	Thr 300	Asp	Thr	Gln	Val
Gln 305	Pro	Lys	Leu	Gln	Lys 310	Gln	Ala	Gln	Thr	Gln 315	Thr	Ser	Pro	Glu	His 320
Leu	Val	Leu	Gln	Gln 325	Lys	Gln	Val	Gln	Pro 330	Gln	Leu	Gln	Gln	Glu 335	Ala
Glu	Pro	Gln	Lys 340	Gln	Val	Gln	Pro	Gln 345	Val	Gln	Pro	Gln	Ala 350	His	Ser
Gln	Gly	Pro 355	Arg	Gln	Val	Gln	Leu 360	Gln	Gln	Glu	Ala	Glu 365	Pro	Leu	Lys
Gln	Val 370	Gln	Pro	Gln	Val	His 375	Thr	Gln	Ala	Gln	Pro 380	Ser	Val	Gln	Pro
Gln 385	Glu	His	Pro	Pro	Ala 390	Gln	Val	Ser	Val	Gln 395	Pro	Pro	Glu	Gln	Thr 400
His	Glu	Gln	Pro	His 405	Thr	Gln	Pro	Gln	Val 410	Ser	Leu	Leu	Ala	Pro 415	Glu
Gln	Thr	Pro	Val 420	Val	Val	His	Val	Cys 425	Gly	Leu	Glu	Met	Pro	Pro	Asp

Ala	Val	Glu 435	Ala	Gly	Gly	Gly	Met 440	Glu	Lys	Thr	Leu	Pro 445	Glu	Pro	Val
Gly	Thr 450	Gln	Val	Ser	Met	Glu 455	Glu	Ile	Gln	Asn	Glu 460	Ser	Ala	Cys	Gly
Leu 465	Asp	Val	Gly	Glu	Cys 470	Glu	Asn	Arg	Ala	Arg 475	Glu	Met	Pro	Gly	Val 480
Trp	Gly	Ala	Gly	Gly 485	Ser	Leu	Lys	Val	Thr 490	Ile	Leu	Gln	Ser	Ser 495	Asp
Ser	Arg	Ala	Phe 500	Ser	Thr	Val	Pro	Leu 505	Thr	Pro	Val	Pro	Arg 510	Pro	Ser
Asp	Ser	Val 515	Ser	Ser	Thr	Pro	Ala 520	Ala	Thr	Ser	Thr	Pro 525	Ser	Lys	Gln
Ala	Leu 530	Gln	Phe	Phe	Cys	Tyr 535	Ile	Cys	Lys	Ala	Ser 540	Cys	Ser	Ser	Gln
Gln 545	Glu	Phe	Gln	Asp	His 550	Met	Ser	Glu	Pro	Gln 555	His	Gln	Gln	Arg	Leu 560
Gly	Glu	Ile	Gln	His 565	Met	Ser	Gln	Ala	Cys 570	Leu	Leu	Ser	Leu	Leu 575	Pro
Val	Pro	Arg	Asp 580	Val	Leu	Glu	Thr	Glu 585	Asp	Glu	Glu	Pro	Pro 590	Pro	Arg
Arg	Trp	Cys 595	Asn	Thr	Cys	Gln	Leu 600	Tyr	Tyr	Met	Gly	Asp 605	Leu	Ile	Gln
His	Arg 610	Arg	Thr	Gln	Asp	His 615	Lys	Ile	Ala	Lys	Gln 620	Ser	Leu	Arg	Pro
Phe 625	Cys	Thr	Val	Cys	Asn 630	Arg	Tyr	Phe	Lys	Thr 635	Pro	Arg	Lys	Phe	Val 640
Glu	His	Val	Lys	Ser 645	Gln	Gly	His	Lys	Asp 650	Lys	Ala	Lys	Glu	Leu 655	Lys

Ser Leu Glu Lys Glu Ile Ala Gly Gln Asp Glu Asp His Phe Ile Thr 660 665 670

Val Asp Ala Val Gly Cys Phe Glu Gly Asp Glu Glu Glu Glu Glu Asp 675 680 685

Asp Glu Asp Glu Glu Glu Ile Glu Val Glu Glu Glu Leu Cys Lys Gln 690 695 700

Val Arg Ser Arg Asp Ile Ser Arg Glu Glu Trp Lys Gly Ser Glu Thr 705 710 715 720

Tyr Ser Pro Asn Thr Ala Tyr Gly Val Asp Phe Leu Val Pro Val Met 725 730 735

Gly Tyr Ile Cys Arg Ile Cys His Lys Phe Tyr His Ser Asn Ser Gly 740 745 750

Ala Gln Leu Ser His Cys Lys Ser Leu Gly His Phe Glu Asn Leu Gln 755 760 765

Lys Tyr Lys Ala Ala Lys Asn Pro Ser Pro Thr Thr Arg Pro Val Ser 770 780

Arg Arg Cys Ala Ile Asn Ala Arg Asn Ala Leu Thr Ala Leu Phe Thr 785 790 795 800

Ser Ser Gly Arg Pro Pro Ser Gln Pro Asn Thr Gln Asp Lys Thr Pro 805 810 815

Ser Lys Val Thr Ala Arg Pro Ser Gln Pro Pro Leu Pro Arg Arg Ser 820 825 830

Thr Arg Leu Lys Thr 835

<210> 34

<211> 818

<212> PRT

<213> Homo sapiens

<400> 34

Met Phe Ser Gln Gln Gln Gln Gln Leu Gln Gln Gln Gln Gln Gln

Leu	Gln	Gln	Leu	Gln	Gln	Gln	Gln	Leu	Gln	Gln	Gln	Gln	Leu	Gln	Gln
			20					25					30		

- Gln Gln Leu Leu Gln Leu Gln Gln Leu Leu Gln Gln Ser Pro Pro Gln 35 40 45
- Ala Pro Leu Pro Met Ala Val Ser Arg Gly Leu Pro Pro Gln Gln Pro 50 55 60
- Gln Gln Pro Leu Leu Asn Leu Gln Gly Thr Asn Ser Ala Ser Leu Leu 65 70 75 80
- Asn Gly Ser Met Leu Gln Arg Ala Leu Leu Gln Gln Leu Gln Gly 85 90 95
- Asn Leu Arg Gly Tyr Gly Met Ala Ser Pro Gly Leu Ala Ala Pro Ser 100 105 110
- Leu Thr Pro Pro Gln Leu Ala Thr Pro Asn Leu Gln Gln Phe Pro 115 120 125
- Gln Ala Thr Arg Gln Ser Leu Leu Gly Pro Pro Pro Val Gly Val Pro 130 135 140
- Met Asn Pro Ser Gln Phe Asn Leu Ser Gly Arg Asn Pro Gln Lys Gln 145 150 155 160
- Ala Arg Thr Ser Ser Ser Thr Thr Pro Asn Arg Lys Asp Ser Ser Ser 165 170 175
- Gln Thr Met Pro Val Glu Asp Lys Ser Asp Pro Pro Glu Gly Ser Glu 180 185 190
- Glu Ala Glu Pro Arg Met Asp Thr Pro Glu Asp Gln Asp Leu Pro 195 200 205
- Pro Cys Pro Glu Asp Ile Ala Lys Glu Lys Arg Thr Pro Ala Pro Glu 210 215 220
- Pro Glu Pro Cys Glu Ala Ser Glu Leu Pro Ala Lys Arg Leu Arg Ser 225 230 235 240

Ser Glu Glu	Pro Thr 245	Glu Lys	Glu Pro	Pro Gly 250	Gln Le	u Gln	Val Lys 255
Ala Gln Pro	Gln Ala 260	Arg Met	Thr Val 265	_	Gln Th	r Gln 270	Thr Pro
Asp Leu Leu 275		Ala Leu	Glu Ala 280	Gln Val	Leu Pr 28	_	Phe Gln
Pro Arg Val 290	Leu Gln	Val Gln 295	Ala Gln	Val Gln	Ser Gl 300	n Thr	Gln Pro
Arg Ile Pro	Ser Thr	Asp Thr 310	Gln Val	Gln Pro 315	_	u Gln	Lys Gln 320
Ala Gln Thr	Gln Thr 325	Ser Pro	Glu His	Leu Val 330	Leu Gl	n Gln	Lys Gln 335
Val Gln Pro	Gln Leu 340	Gln Gln	Glu Ala 345		Gln Ly	s Gln 350	Val Gln
Pro Gln Val		Gln Ala	Gln Pro 360	Ser Val	Gln Pr 36		Glu His
Pro Pro Ala 370	Gln Val	Ser Val 375	Gln Pro	Pro Glu	Gln Th 380	r His	Glu Gln
Pro His Thr 385	Gln Pro	Gln Val 390	Ser Leu	Leu Ala 395	Pro Gl	u Gln	Thr Pro 400
Val Val Val	His Val 405	Cys Gly	Leu Glu	Met Pro 410	Pro As		Val Glu 415
Ala Gly Gly	Gly Met 420	Glu Lys	Thr Leu 425		Pro Va	1 Gly 430	Thr Gln
Val Ser Met 435		Ile Gln	Asn Glu 440	Ser Ala	Cys Gl 44	_	Asp Val
Gly Glu Cys 450	Glu Asn	Arg Ala 455	Arg Glu	Met Pro	Gly Va 460	l Trp	Gly Ala

Gly 465	Gly	Ser	Leu	Lys	Val 470	Thr	Ile	Leu	Gln	Ser 475	Ser	Asp	Ser	Arg	Ala 480
Phe	Ser	Thr	Val	Pro 485	Leu	Thr	Pro	Val	Pro 490	Arg	Pro	Ser	Asp	Ser 495	Val
Ser	Ser	Thr	Pro 500	Ala	Ala	Thr	Ser	Thr 505	Pro	Ser	Lys	Gln	Ala 510	Leu	Gln
Phe	Phe	Cys 515	Tyr	Ile	Сув	Lys	Ala 520	Ser	Cys	Ser	Ser	Gln 525	Gln	Glu	Phe
Gln	Asp 530	His	Met	Ser	Glu	Pro 535	Gln	His	Gln	Gln	Arg 540	Leu	Gly	Glu	Ile
Gln 545	His	Met	Ser	Gln	Ala 550	Cys	Leu	Leu	Ser	Leu 555	Leu	Pro	Val	Pro	Arg 560
Asp	Val	Leu	Glu	Thr 565	Glu	Asp	Glu	Glu	Pro 570	Pro	Pro	Arg	Arg	Trp 575	Cys
Asn	Thr	Cys	Gln 580	Leu	Tyr	Tyr	Met	Gly 585	Asp	Leu	Ile	Gln	His 590	Arg	Arg
Thr	Gln	Asp 595	His	Lys	Ile	Ala	Lys 600	Gln	Ser	Leu	Arg	Pro 605	Phe	Cys	Thr
Val	Cys 610	Asn	Arg	Tyr	Phe	Lys 615	Thr	Pro	Arg	Lys	Phe 620	Val	Glu	His	Val
Lys 625	Ser	Gln	Gly	His	Lys 630	Asp	Lys	Ala	Lys	Glu 635	Leu	Lys	Ser	Leu	Glu 640
Lys	Glu	Ile	Ala	Gly 645	Gln	Asp	Glu	Asp	His 650	Phe	Ile	Thr	Val	Asp 655	Ala
Val	Gly	Cys	Phe 660	Glu	Gly	Asp	Glu	Glu 665	Glu	Glu	Glu	Asp	Asp 670	Glu	Asp
Glu	Glu	Glu 675	Ile	Glu	Val	Glu	Glu 680	Glu	Leu	Cys	Lys	Gln 685	Val	Arg	Ser

Arg Asp Ile Ser Arg Glu Glu Trp Lys Gly Ser Glu Thr Tyr Ser Pro 690 695 Asn Thr Ala Tyr Gly Val Asp Phe Leu Val Pro Val Met Gly Tyr Ile 705 Cys Arg Ile Cys His Lys Phe Tyr His Ser Asn Ser Gly Ala Gln Leu 725 Ser His Cys Lys Ser Leu Gly His Phe Glu Asn Leu Gln Lys Tyr Lys 745 Ala Ala Lys Asn Pro Ser Pro Thr Thr Arg Pro Val Ser Arg Arg Cys 760 Ala Ile Asn Ala Arg Asn Ala Leu Thr Ala Leu Phe Thr Ser Ser Gly 770 775 Arg Pro Pro Ser Gln Pro Asn Thr Gln Asp Lys Thr Pro Ser Lys Val 790 795 800 785 Thr Ala Arg Pro Ser Gln Pro Pro Leu Pro Arg Arg Ser Thr Arg Leu 805 810 815 Lys Thr <210> 35 <211> 820 <212> PRT <213> Homo sapiens <400> 35 Pro Leu Pro Met Ala Val Ser Arg Gly Leu Pro Pro Gln Gln Pro Gln 5 10 Gln Pro Leu Leu Asn Leu Gln Gly Thr Asn Ser Ala Ser Leu Leu Asn Gly Ser Met Leu Gln Arg Ala Leu Leu Gln Gln Leu Gln Gly Asn 40 35

60

Leu Arg Gly Tyr Gly Met Ala Ser Pro Gly Leu Ala Ala Pro Ser Leu

55

Thr Pro Pro 65		Ala Thr 70	Pro P	Asn Leu	Gln G 75	ln Phe	Phe :	Pro	Gln 80
Ala Thr Arg	Gln Ser 85	Leu Leu	Gly I	Pro Pro 90	Pro V	al Gly		Pro 95	Met
Asn Pro Ser	Gln Phe	Asn Leu		Gly Arg 105	Asn P	ro Gln	Lys (Gln	Ala
Arg Thr Ser		Thr Thr	Pro <i>P</i>	Asn Arg	Lys T	hr Met 125	Pro '	Val	Glu
Asp Lys Ser 130	Asp Pro	Pro Glu 135	Gly S	Ser Glu		la Ala 40	Glu 1	Pro	Arg
Met Asp Thr 145		Asp Gln 150	Asp I	Leu Pro	Pro C	ys Pro	Glu i	Asp	Ile 160
Ala Lys Glu	Lys Arg 165	Thr Pro	Ala I	Pro Glu 170		lu Pro	_	Glu 175	Ala
Ser Glu Leu	Pro Ala 180	Lys Arg		Arg Ser 185	Ser G	lu Glu	Pro '	Thr	Glu
Lys Glu Pro 195		Gln Leu	Gln \ 200	Val Lys	Ala G	ln Pro 205	Gln i	Ala	Arg
Met Thr Val 210	Pro Lys	Gln Thr 215	Gln T	Thr Pro		eu Leu 20	Pro (Glu	Ala
Leu Glu Ala 225		Leu Pro 230	Arg I	Phe Gln	Pro A: 235	rg Val	Leu (Gln	Val 240
Gln Ala Gln	Val Gln 245	Ser Gln	Thr G	Gln Pro 250	-	le Pro		Thr 255	Asp
Thr Gln Val	Gln Pro 260	Lys Leu		Lys Gln 265	Ala G	ln Thr	Gln '	Thr	Ser
Pro Glu His 275		Leu Gln	Gln I 280	Lys Gln	Val G	ln Pro 285	Gln 1	Leu	Gln

Gln	Glu 290	Ala	Glu	Pro	Gln	Lys 295	Gln	Val	Gln	Pro	Gln 300	Val	Gln	Pro	Gln
Ala 305	His	Ser	Gln	Gly	Pro 310	Arg	Gln	Val	Gln	Leu 315	Gln	Gln	Glu	Ala	Glu 320
Pro	Leu	Lys	Gln	Val 325	Gln	Pro	Gln	Val	Gln 330	Pro	Gln	Ala	His	Ser 335	Gln
Pro	Pro	Arg	Gln 340	Val	Gln	Leu	Gln	Leu 345	Gln	Lys	Gln	Val	Gln 350	Thr	Gln
Thr	Tyr	Pro 355	Gln	Val	His	Thr	Gln 360	Ala	Gln	Pro	Ser	Val 365	Gln	Pro	Gln
Glu	His 370	Pro	Pro	Ala	Gln	Val 375	Ser	Val	Gln	Pro	Pro 380	Glu	Gln	Thr	His
Glu 385	Gln	Pro	His	Tḥr	Gln 390	Pro	Gln	Val	Ser	Leu 395	Leu	Ala	Pro	Glu	Gln 400
Thr	Pro	Val	Val	Val 405	His	Val	Cys	Gly	Leu 410	Glu	Met	Pro	Pro	Asp 415	Ala
Val	Glu	Ala	Gly 420	Gly	Ser	Met	Glu	Lys 425	Thr	Leu	Pro	Glu	Pro 430	Val	Gly
Thr	Gln	Val 435	Ser	Met	Glu	Glu	Ile 440	Gln	Asn	Glu	Ser	Ala 445	Cys	Gly	Leu
Asp	Val 450	Gly	Glu	Cys	Glu	Asn 455	Arg	Ala	Arg	Glu	Met 460	Pro	Gly	Val	Trp
Gly 465	Ala	Gly	Gly	Ser	Leu 470	Lys	Val	Thr	Ile	Leu 475	Gln	Ser	Ser	Asp	Ser 480
Arg	Ala	Phe	Ser	Thr 485	Val	Pro	Leu	Thr	Pro 490	Val	Pro	Arg	Pro	Ser 495	Asp
Ser	Val	Ser	Ser 500	Thr	Pro	Ala	Ala	Thr 505	Ser	Thr	Pro	Ser	Lys 510	Gln	Ala

Leu Gl	n Phe 515	Phe	Cys	Tyr	Ile	Cys 520	Lys	Ala	Ser	Cys	Ser 525	Ser	Gln	Gln
Glu Ph 53		Asp	His	Met	Ser 535	Glu	Pro	Gln	His	Gln 540	Gln	Arg	Leu	Gly
Glu Il 545	e Gln.	His	Met	Ser 550	Gln	Ala	Cys	Leu	Leu 555	Ser	Leu	Leu	Pro	Val 560
Pro Ar	g Asp	Val	Leu 565	Glu	Thr	Glu	Asp	Glu 570	Glu	Pro	Pro	Pro	Arg 575	Arg
Trp Cy	rs Asn	Thr 580	Cys	Gln	Leu	Tyr	Tyr 585	Met	Gly	Asp	Leu	Ile 590	Gln	His
Arg Ar	g Thr 595	Gln	Asp	His	Arg	Ile 600	Ala	Lys	Gln	Ser	Leu 605	Arg	Pro	Phe
Cys Th		Cys	Asn	Arg	Tyr 615	Phe	Lys	Thr	Pro	Arg 620	Lys	Phe	Val	Glu
His Va 625	ıl Lys	Ser	Gln	Gly 630	His	Lys	Asp	Lys	Ala 635	Lys	Glu	Leu	Lys	Ser 640
Leu Gl	u Lys	Glu	Ile 645	Ala	Gly	Gln	Asp	Glu 650	Asp	His	Phe	Ile	Thr 655	Val
Asp Al	a Val	Gly 660	Cys	Phe	Glu	Gly	Asp 665	Glu	Glu	Glu	Glu	Glu 670	Asp	Asp
Glu As	sp Glu 675	Glu	Glu	Ile	Glu	Val 680	Glu	Glu	Glu	Leu	Cys 685	Lys	Gln	Val
Arg Se	_	Asp	Ile	Ser	Arg 695	Glu	Glu	Trp	Lys	Gly 700	Ser	Glu	Thr	Tyr
Ser Pr 705	o Asn	Thr	Ala	Tyr 710	Gly	Val	Asp	Phe	Leu 715	Val	Pro	Val	Met	Gly 720
Tyr Il	e Cys	Arg	Ile 725	Cys	His	Lys	Phe	Tyr 730	His	Asn	Asn	Ser	Gly 735	Ala
Gln Le	u Ser	His	Cys	Lys	Ser	Leu	Gly	His	Phe	Glu	Asn	Leu	Gln	Lys

740 745 750

Tyr Lys Ala Ala Lys Asn Pro Ser Pro Thr Thr Arg Pro Val Ser Arg
755 760 765

Arg Cys Ala Ile Asn Ala Arg Asn Ala Leu Thr Ala Leu Phe Thr Ser 770 780

Ser Gly Arg Pro Pro Ser Gln Pro Asn Thr Gln Asp Lys Thr Pro Ser 785 790 795 800

Lys Val Thr Ala Arg Pro Ser Gln Pro Pro Leu Pro Arg Arg Ser Thr 805 810 815

Arg Leu Lys Thr 820

<210> 36

<211> 414

<212> PRT

<213> Homo sapiens

<400> 36

Leu Gl
n Gl
n Leu Gl
n Gl
n Gl
n Leu Gl
n Gl
n

Gln Gln Leu Leu Gln Leu Gln Gln Leu Gln Gln Ser Pro Pro Gln 35 40 45

Ala Pro Leu Pro Met Ala Val Ser Arg Gly Leu Pro Pro Gln Gln Pro 50 55 60

Gln Gln Pro Leu Leu Asn Leu Gln Gly Thr Asn Ser Ala Ser Leu Leu 65 70 75 80

Asn Gly Ser Met Leu Gln Arg Ala Leu Leu Gln Gln Gln Gly 85 90 95

Asn Leu Arg Gly Tyr Gly Met Ala Ser Pro Gly Leu Ala Ala Pro Ser 100 105 110

Leu	Thr	Pro 115	Pro	Gln	Leu	Ala	Thr 120	Pro	Asn	Leu	Gln	Gln 125	Phe	Phe	Pro
Gln	Ala 130	Thr	Arg	Gln	Ser	Leu 135	Leu	Gly	Pro	Pro	Pro 140	Val	Gly	Val	Pro
Met 145	Asn	Pro	Ser	Gln	Phe 150	Asn	Leu	Ser	Gly	Arg 155	Asn	Pro	Gln	Lys	Gln 160
Ala	Arg	Thr	Ser	Ser 165	Ser	Thr	Thr	Pro	Asn 170	Arg	Lys	Asp	Ser	Ser 175	Ser
Gln	Thr	Met	Pro 180	Val	Glu	Asp	Lys	Ser 185	Asp	Pro	Pro	Glu	Gly 190	Ser	Glu
Glu	Ala	Ala 195	Glu	Pro	Arg	Met	Asp 200	Thr	Pro	Glu	Asp	Gln 205	Asp	Leu	Pro
Pro	Cys 210	Pro	Glu	Asp	Ile	Ala 215	Lys	Glu	Lys	Arg	Thr 220	Pro	Ala	Pro	Glu
Pro 225	Glu	Pro	Cys	Glu	Ala 230	Ser	Glu	Leu	Pro	Ala 235	Lys	Arg	Leu	Arg	Ser 240
Ser	Glu	Glu	Pro	Thr 245	Glu	Lys	Glu	Pro	Pro 250	Gly	Gln	Leu	Gln	Val 255	Lys
Ala	Gln	Pro	Gln 260	Ala	Arg	Met	Thr	Val 265	Pro	Lys	Gln	Thr	Gln 270	Thr	Pro
Asp	Leu	Leu 275	Pro	Glu	Ala	Leu	Glu 280	Ala	Gln	Val	Leu	Pro 285	Arg	Phe	Gln
Pro	Arg 290	Val	Leu	Gln	Val	Gln 295	Ala	Gln	Val	Gln	Ser 300	Gln	Thr	Gln	Pro
Arg 305	Ile	Pro	Ser	Thr	Asp 310	Thr	Gln	Val	Gln	Pro 315	Lys	Leu	Gln	Lys	Gln 320
Ala	Gln	Thr	Gln	Thr 325	Ser	Pro	Glu	His	Leu 330	Val	Leu	Gln	Gln	Lys 335	Gln

Val Gln Pro Gln Leu Gln Gln Glu Ala Glu Pro Gln Lys Gln Val Gln 340 345 Pro Gln Val Gln Pro Gln Ala His Ser Gln Gly Pro Arg Gln Val Gln 355 Leu Gln Gln Glu Ala Glu Pro Leu Lys Gln Val Gln Pro Gln Val Gln 375 Pro Gln Ala His Ser Gln Pro His Leu Pro Gln Val Leu Ser Gln Gln 390 395 Leu Arg Gly Thr Ala Leu Pro Leu Gln Val Pro Gly Pro Leu 405 410 <210> 37 <211> 75 <212> PRT <213> Homo sapiens <400> 37 Leu Gln Gln Gln Gln Gln Leu Gln Gln Leu Gln Gln Gln Leu 5 10 Gln Gln Gln Gln Gln Gln Gln Leu Gln Leu Gln Leu Gln Leu 20 25 Leu Gln Gln Ser Pro Pro Gln Ala Pro Leu Pro Met Ala Val Ser Arg 35 40 Gly Leu Pro Pro Gln Gln Pro Gln Pro Leu Leu Asn Leu Gln Gly 50 55 Thr Asn Ser Ala Ser Leu Leu Asn Gly Ser Met 65 70 <210> 38 <211> 33 <212> PRT <213> Homo sapiens <400> 38

10

15

Gln Gln Leu Gln Gln Gln Gln Gln Leu Gln Gln Gln Leu

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Gln Gln Gln Leu Leu Gln Leu Gln Gln Leu Gln Gln Ser Pro 25

20

Pro

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Leu Thr Met Pro Thr Ala Thr Leu 20

Val Gln Pro Lys Leu Gln Lys Gln Ala Gln Thr Gln Thr Ser Pro Glu

25

His Leu Val Leu Gln Gln Lys Gln Val Gln Pro Gln Leu Gln Gln Glu 35 40 45

Ala Glu Pro Gln Lys Gln Val Gln Pro Gln Val Gln Pro Gln Ala His 50 55 60

Ser Gln Gly Pro Arg Gln Val Gln Leu Gln Gln Glu Ala Glu Pro Leu 65 70 75 80

Lys Gln Val Gln Pro Gln Val Gln Pro Gln Ala His Ser Gln Pro Pro 85 90 95

Arg Gln Val Gln Leu Gln Leu Gln Lys Gln Val Gln Thr Gln Thr Tyr
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<210> 45

<211> 2687

<212> DNA

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Pro Gly Leu Ala Ala Pro Ser Leu Thr Pro Pro Gln Leu Ala Thr Pro 130 135 140

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Pro Pro Pro Val Gly Val Pro Met Asn Pro Ser Gln Phe Asn Leu Ser 165 170 175

Gly Arg Asn Pro Gln Lys Gln Ala Arg Thr Ser Ser Ser Thr Thr Pro 180 185 190

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Cys Asn Arg Tyr Phe Lys Thr Pro Arg Lys Phe Val Glu His Val Lys 690 695 700

Ser Gln Gly His Lys Asp Lys Ala Lys Glu Leu Lys Ser Leu Glu Lys 705 710 715 720

Glu Ile Ala Gly Gln Asp Glu Asp His Phe Ile Thr Val Asp Ala Val 725 730 735

Gly Cys Phe Glu Gly Asp Glu Glu Glu Glu Glu Asp Asp Glu Asp Glu 740 745 750

Glu Glu Ile Glu Val Glu Glu Glu Leu Cys Lys Gln Val Arg Ser Arg 755 760 765

Asp Ile Ser Arg Glu Glu Trp Lys Gly Ser Glu Thr Tyr Ser Pro Asn 770 780

Thr Ala Tyr Gly Val Asp Phe Leu Val Pro Val Met Gly Tyr Ile Cys 785 790 795 800

Arg Ile Cys His Lys Phe Tyr His Ser Asn Ser Gly Ala Gln Leu Ser 805 810 815

His Cys Lys Ser Leu Gly His Phe Glu Asn Leu Gln Lys Tyr Lys Ala 820 825 830

Ala Lys Asn Pro Ser Pro Thr Thr Arg Pro Val Ser Arg Arg Cys Ala 835 840 845

Ile Asn Ala Arg Asn Ala Leu Thr Ala Leu Phe Thr Ser Ser Gly Arg 850 855 860

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Ala Gly Gli 690	ı Asp Glu	Asp His 695		Ile	Thr	Val	Asp 700	Ala	Val	Gly	Cys
Phe Glu Gly 705	⁄ Asp Glu	Glu Glu 710	Glu	Glu	Asp	Asp 715	Glu	Asp	Glu	Glu	Glu 720
Ile Glu Va	. Glu Glu 725		Cys	Lys	Gln 730	Val	Arg	Ser	Arg	Asp 735	Ile
Ser Arg Glu	Glu Trp 740	Lys Gly	Ser	Glu 745	Thr	Tyr	Ser	Pro	Asn 750	Thr	Ala
Tyr Gly Val	-	Leu Val	Pro 760	Val	Met	Gly	Tyr	Ile 765	Cys	Arg	Ile
Cys His Lys 770	s Phe Tyr	His Ser 775		Ser	Gly	Ala	Gln 780	Leu	Ser	His	Cys
Lys Ser Let 785	Gly His	Phe Glu 790	Asn	Leu	Gln	Lys 795	Tyr	Lys	Ala	Ala	Lys 800
Asn Pro Ser	Pro Thr	Thr Arg	Pro	Val	Ser	Arg	Arg	Cys	Ala	Ile	Asn

805 810 815

Ala Arg Asn Ala Leu Thr Ala Leu Phe Thr Ser Ser Gly Arg Pro Pro 820 825 830

Ser Gln Pro Asn Thr Gln Asp Lys Thr Pro Ser Lys Val Thr Ala Arg 835 840 845

Pro Ser Gln Pro Pro Leu Pro Arg Arg Ser Thr Arg Leu Lys Thr 850 855 860

<210> 59

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<212> PRT

<213> Homo sapiens

<400> 59

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Pro Leu Pro Met Ala Val Ser Arg Gly Leu Pro Pro Gln Gln Pro Gln 50 55 60

Gln Pro Leu Leu Asn Leu Gln Gly Thr Asn Ser Ala Ser Leu Leu Asn 65 70 75 80

Gly Ser Met Leu Gln Arg Ala Leu Leu Gln Gln Leu Gln Gly Asn 85 90 95

Leu Arg Gly Tyr Gly Met Ala Ser Pro Gly Leu Ala Ala Pro Ser Leu 100 105 110

Thr Pro Pro Gln Leu Ala Thr Pro Asn Leu Gln Gln Phe Pro Gln 115 120 125

Ala Thr Arg Gln Ser Leu Leu Gly Pro Pro Pro Val Gly Val Pro Met 130 135 140

Asn Pro Ser 145	Gln Phe	Asn Leu 150	Ser Gly	Arg Asr 155		Gln Lys		Ala 160
Arg Thr Ser	Ser Ser 165	Thr Thr	Pro Asn	Arg Lys	Asp S	Ser Ser	Ser G 175	3ln
Thr Met Pro	Val Glu 180	Asp Lys	Ser Asp 185		Glu (Gly Ser 190	Glu G	3lu
Ala Ala Glu 195	_	Met Asp	Thr Pro 200	Glu Asp		Asp Leu 205	Pro E	Pro
Cys Pro Glu 210	Asp Ile	Ala Lys 215	Glu Lys	Arg Thi	Pro <i>P</i> 220	Ala Pro	Glu F	Pro
Glu Pro Cys 225	Glu Ala	Ser Glu 230	Leu Pro	Ala Lys 235		Leu Arg		Ser 240
Glu Glu Pro	Thr Glu 245	Lys Glu	Pro Pro	Gly Glr 250	Leu (Gln Val	Lys A 255	Ala
Gln Pro Gln	Ala Arg 260	Met Thr	Val Pro 265	-	Thr (Gln Thr 270	Pro A	Asp
Leu Leu Pro 275		Leu Glu	Ala Gln 280	Val Leu		Arg Phe 285	Gln E	Pro
Arg Val Leu 290	Gln Val	Gln Ala 295	Gln Val	Gln Ser	300 3	Thr Gln	Pro A	Arg
Ile Pro Ser 305	Thr Asp	Thr Gln 310	Val Gln	Pro Lys		Eln Lys		Ala 320
Gln Thr Gln	Thr Ser 325	Pro Glu	His Leu	Val Leu 330	ı Gln G	Gln Lys	Gln V 335	/al
Gln Pro Gln	Leu Gln 340	Gln Glu	Ala Glu 345		Lys (Gln Val 350	Gln F	Pro
Gln Val Gln 355		Ala His	Ser Gln 360	Gly Pro	_	Gln Val	Gln L	Leu

Gln	Gln 370	Glu	Ala	Glu	Pro	Leu 375	Lys	Gln	Val	Gln	Pro 380	Gln	Val	Gln	Pro
Gln 385	Ala	His	Ser	Gln	Pro 390	Pro	Arg	Gln	Val	Gln 395	Leu	Gln	Leu	Gln	Lys 400
Gln	Val	Gln	Thr	Gln 405	Thr	Tyr	Pro	Gln	Val 410	His	Thr	Gln	Ala	Gln 415	Pro
Ser	Val	Gln	Pro 420	Gln	Glu	His	Pro	Pro 425	Ala	Gln	Val	Ser	Val 430	Gln	Pro
Pro	Glu	Gln 435	Thr	His	Glu	Gln	Pro 440	His	Thr	Gln	Pro	Gln 445	Val	Ser	Leu
Leu	Ala 450	Pro	Glu	Gln	Thr	Pro 455	Val	Val	Val	His	Val 460	Cys	Gly	Leu	Glu
Met 465	Pro	Pro	Asp	Ala	Val 470	Glu	Ala	Gly	Gly	Gly 475	Met	Glu	Lys	Thr	Leu 480
Pro	Glu	Pro	Val	Gly 485	Thr	Gln	Val	Ser	Met 490	Glu	Glu	Ile	Gln	Asn 495	Glu
Ser	Ala	Cys	Gly 500	Leu	Asp	Val	Gly	Glu 505	Cys	Glu	Asn	Arg	Ala 510	Arg	Glu
Met	Pro	Gly 515	Val	Trp	Gly	Ala	Gly 520	Gly	Ser	Leu	Lys	Val 525	Thr	Ile	Leu
Gln	Ser 530	Ser	Asp	Ser	Arg	Ala 535	Phe	Ser	Thr	Val	Pro 540	Leu	Thr	Pro	Val
Pro 545	Arg	Pro	Ser	Asp	Ser 550	Val	Ser	Ser	Thr	Pro 555	Ala	Ala	Thr	Ser	Thr 560
Pro	Ser	Lys	Gln	Ala 565	Leu	Gln	Phe	Phe	Cys 570	Tyr	Ile	Cys	Lys	Ala 575	Ser
Cys	Ser	Ser	Gln 580	Gln	Glu	Phe	Gln	Asp 585	His	Met	Ser	Glu	Pro 590	Gln	His
Gln	Gln	Arg	Leu	Gly	Glu	Ile	Gln	His	Met	Ser	Gln	Ala	Cys	Leu	Leu

595	600	605

Ser	Leu 610	Leu	Pro	Val	Pro	Arg 615	Asp	Val	Leu	Glu	Thr 620	Glu	Asp	Glu	Glu
Pro 625	Pro	Pro	Arg	Arg	Trp 630	Cys	Asn	Thr	Cys	Gln 635	Leu	Tyr	Tyr	Met	Gly 640
Asp	Leu	Ile	Gln	His 645	Arg	Arg	Thr	Gln	Asp 650	His	Lys	Ile	Ala	Lys 655	Gln
Ser	Leu	Arg	Pro 660	Phe	Cys	Thr	Val	Cys 665	Asn	Arg	Tyr	Phe	Lys 670	Thr	Pro
Arg	Lys	Phe 675	Val	Glu	His	Val	Lys 680	Ser	Gln	Gly	His	Lys 685	Asp	Lys	Ala
Lys	Glu 690	Leu	Lys	Ser	Leu	Glu 695	Lys	Glu	Ile	Ala	Gly 700	Gln	Asp	Glu	Asp
His 705	Phe	Ile	Thr	Val	Asp 710	Ala	Val	Gly	Cys	Phe 715	Glu	Gly	Asp	Glu	Glu 720
Glu	Glu	Glu	Asp	Asp 725	Glu	Asp	Glu	Glu	Glu 730	Ile	Glu	Val	Glu	Glu 735	Glu
Leu	Cys	Lys	Gln 740	Val	Arg	Ser	Arg	Asp 745	Ile	Ser	Arg	Glu	Glu 750	Trp	Lys
Gly	Ser	Glu 755	Thr	Tyr	Ser	Pro	Asn 760	Thr	Ala	Tyr	Gly	Val 765	Asp	Phe	Leu
Val	Pro 770	Val	Met	Gly	Tyr	Ile 775	Cys	Arg	Ile	Cys	His 780	Lys	Phe	Tyr	His
785			Gly		790					795					800
Glu	Asn	Leu	Gln	Lys 805	Tyr	Lys	Ala	Ala	Lys 810	Asn	Pro	Ser	Pro	Thr 815	Thr
Arg	${\tt Pro}$	Val	Ser	Arg	Arg	Cys	Ala	Ile	Asn	Ala	Arg	Asn	Ala	Leu	Thr

Ala Leu Phe Thr Ser Ser Gly Arg Pro Pro Ser Gln Pro Asn Thr Gln 835 840 845

Asp Lys Thr Pro Ser Lys Val Thr Ala Arg Pro Ser Gln Pro Pro Leu 850 855 860

Pro Arg Arg Ser Thr Arg Leu Lys Thr 865 870

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<212> PRT

<213> Homo sapiens

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Pro Leu Pro Met Ala Val Ser Arg Gly Leu Pro Pro Gln Gln Pro Gln 50 55 60

Gln Pro Leu Leu Asn Leu Gln Gly Thr Asn Ser Ala Ser Leu Leu Asn 65 70 75 80

Gly Ser Met Leu Gln Arg Ala Leu Leu Gln Gln Leu Gln Gly Leu 85 90 95

Asp Gln Phe Ala Met Pro Pro Ala Thr Tyr Asp Thr Ala Gly Leu Thr 100 105 110

Met Pro Thr Ala Thr Leu Gly Asn Leu Arg Gly Tyr Gly Met Ala Ser 115 120 125

Pro Gly Leu Ala Ala Pro Ser Leu Thr Pro Pro Gln Leu Ala Thr Pro 130 135 140

Asn Leu Gl	n Gln Phe	Phe Pro 150	Gln A	Ala Thr	Arg Gln 155	Ser L	eu Leu	Gly 160
Pro Pro Pro	Val Gly 165		Met A	Asn Pro 170	Ser Gln	Phe A	sn Leu 175	Ser
Gly Arg Ass	n Pro Gln 180	Lys Gln		Arg Thr 185	Ser Ser		hr Thr 90	Pro
Asn Arg Ly		Pro Val	Glu <i>I</i> 200	Asp Lys	Ser Asp	Pro P 205	ro Glu	Gly
Ser Glu Glu 210	ı Ala Ala	Glu Pro 215	_	Met Asp	Thr Pro 220	Glu A	sp Gln	Asp
Leu Pro Pro 225	Cys Pro	Glu Asp 230	Ile A	Ala Lys	Glu Lys 235	Arg T	hr Pro	Ala 240
Pro Glu Pro	Glu Pro 245	-	Ala S	Ser Glu 250	Leu Pro	Ala L	ys Arg 255	Leu
Arg Ser Se	Glu Glu 260	Pro Thr		Lys Glu 265	Pro Pro	_	ln Leu 70	Gln
Val Lys Ala 27		Gln Ala	Arg N 280	Met Thr	Val Pro	Lys G 285	ln Thr	Gln
Thr Pro Asp 290	Leu Leu	Pro Glu 295		Leu Glu	Ala Gln 300	Val L	eu Pro	Arg
Phe Gln Pro	Arg Val	Leu Gln 310	Val 0	Gln Ala	Gln Val 315	Gln S	er Gln	Thr 320
Gln Pro Arg	J Ile Pro 325		Asp 1	Thr Gln 330	Val Gln	Pro L	ys Leu 335	Gln
Lys Gln Ala	Gln Thr 340	Gln Thr		Pro Glu 345	His Leu	_	eu Gln 50	Gln
Lys Gln Vai		Gln Leu	Gln 6	Gln Glu	Ala Glu	Pro G 365	ln Lys	Gln
Val Gln Pro	Gln Val	Gln Pro	Gln A	Ala His	Ser Gln	Gly P	ro Arg	Gln

1	Gln	Len	Gln	Gl n	Glu	Δla	Glu	Pro	Leu	Lvs	Gln	Val	Gln	Pro	(

370 375 380

390 395 385 Val Gln Pro Gln Ala His Ser Gln Pro Pro Arg Gln Val Gln Leu Gln 405 410 Leu Gln Lys Gln Val Gln Thr Gln Thr Tyr Pro Gln Val His Thr Gln 420 425 Ala Gln Pro Ser Val Gln Pro Gln Glu His Pro Pro Ala Gln Val Ser 435 440 Val Gln Pro Pro Glu Gln Thr His Glu Gln Pro His Thr Gln Pro Gln 455 450 Val Ser Leu Leu Ala Pro Glu Gln Thr Pro Val Val His Val Cys 470 475 Gly Leu Glu Met Pro Pro Asp Ala Val Glu Ala Gly Gly Met Glu 490 Lys Thr Leu Pro Glu Pro Val Gly Thr Gln Val Ser Met Glu Glu Ile 500 505 Gln Asn Glu Ser Ala Cys Gly Leu Asp Val Gly Glu Cys Glu Asn Arg 515 520 Ala Arg Glu Met Pro Gly Val Trp Gly Ala Gly Gly Ser Leu Lys Val 530 535 Thr Ile Leu Gln Ser Ser Asp Ser Arg Ala Phe Ser Thr Val Pro Leu 545 550 555 Thr Pro Val Pro Arg Pro Ser Asp Ser Val Ser Ser Thr Pro Ala Ala 570 . 575 565 Thr Ser Thr Pro Ser Lys Gln Ala Leu Gln Phe Phe Cys Tyr Ile Cys 585

605

Lys Ala Ser Cys Ser Ser Gln Gln Glu Phe Gln Asp His Met Ser Glu

600

Pro	Gln 610	His	Gln	Gln	Arg	Leu 615	Gly	Glu	Ile	Gln	His 620	Met	Ser	Gln	Ala
Cys 625	Leu	Leu	Ser	Leu	Leu 630	Pro	Val	Pro	Arg	Asp 635	Val	Leu	Glu	Thr	Glu 640
Asp	Glu	Glu	Pro	Pro 645	Pro	Arg	Arg	Trp	Cys 650	Asn	Thr	Cys	Gln	Leu 655	Tyr
Tyr	Met	Gly	Asp 660	Leu	Ile	Gln	His	Arg 665	Arg	Thr	Gln	Asp	His 670	Lys	Ile
Ala	Lys	Gln 675	Ser	Leu	Arg	Pro	Phe 680	Cys	Thr	Val	Cys	Asn 685	Arg	Tyr	Phe
Lys	Thr 690	Pro	Arg	Lys	Phe	Val 695	Glu	His	Val	Lys	Ser 700	Gln	Gly	His	Lys
Asp 705	Lys	Ala	Lys	Glu	Leu 710	Lys	Ser	Leu	Glu	Lys 715	Glu	Ile	Ala	Gly	Gln 720
Asp	Glu	Asp	His	Phe 725	Ile	Thr	Val	Asp	Ala 730	Val	Gly	Cys	Phe	Glu 735	Gly
Asp	Glu	Glu	Glu 740	Glu	Glu	Asp	Asp	Glu 745	Asp	Glu	Glu	Glu	Ile 750	Glu	Val
Glu	Glu	Glu 755	Leu	Cys	Lys	Gln	Val 760	Arg	Ser	Arg	Asp	Ile 765	Ser	Arg	Glu
Glu	Trp 770	Lys	Gly	Ser	Glu	Thr 775	Tyr	Ser	Pro	Asn	Thr 780	Ala	Tyr	Gly	Val
Asp 785	Phe	Leu	Val	Pro	Val 790	Met	Gly	Tyr	Ile	Cys 795	Arg	Ile	Cys	His	Lys 800
Phe	Tyr	His	Ser	Asn 805	Ser	Gly	Ala	Gln	Leu 810	Ser	His	Cys	Lys	Ser 815	Leu
Gly	His	Phe	Glu 820	Asn	Leu	Gln	Lys	Tyr 825	Lys	Ala	Ala	Lys	Asn 830	Pro	Ser

 Pro
 Thr
 Thr gas
 Arg gas
 Pro
 Val
 Ser gas
 Arg gas
 Cys late
 Ala lee gas
 Ala lee gas
 Arg gas
 Ala lee gas
 Ala lee gas
 Arg gas
 Arg gas
 Pro
 Ser gly gas
 Arg gas
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 Pro

Met Phe Ser Gln Gln Gln Gln Gln Leu Gln Gln Gln Gln Gln Gln Leu 1 5 10 15

Gln Leu Gln Leu Gln Gln Leu Leu Gln Gln Ser Pro Pro Gln Ala 35 40 45

Pro Leu Pro Met Ala Val Ser Arg Gly Leu Pro Pro Gln Gln Pro Gln 50 55 60

Gln Pro Leu Leu Asn Leu Gln Gly Thr Asn Ser Ala Ser Leu Leu Asn 65 70 75 80

Gly Ser Met Leu Gln Arg Ala Leu Leu Leu Gln Gln Leu Gln Gly Leu 85 90 95

Asp Gln Phe Ala Met Pro Pro Ala Thr Tyr Asp Thr Ala Gly Leu Thr
100 105 110

Met Pro Thr Ala Thr Leu Gly Asn Leu Arg Gly Tyr Gly Met Ala Ser 115 120 125

Pro Gly Leu Ala Ala Pro Ser Leu Thr Pro Pro Gln Leu Ala Thr Pro

Asn 145	Leu	Gln	Gln	Phe	Phe 150	Pro	Gln	Ala	Thr	Arg 155	Gln	Ser	Leu	Leu	Gly 160
Pro	Pro	Pro	Val	Gly 165	Val	Pro	Met	Asn	Pro 170	Ser	Gln	Phe	Asn	Leu 175	Ser
Gly	Arg	Asn	Pro 180	Gln	Lys	Gln	Ala	Arg 185	Thr	Ser	Ser	Ser	Thr 190	Thr	Pro
Asn	Arg	Lys 195	Asp	Ser	Ser	Ser	Gln 200	Thr	Met	Pro	Val	Glu 205	Asp	Lys	Ser
Asp	Pro 210	Pro	Glu	Gly	Ser	Glu 215	Glu	Ala	Ala	Glu	Pro 220	Arg	Met	Asp	Thr
Pro 225	Glu	Asp	Gln	Asp	Leu 230	Pro	Pro	Cys	Pro	Glu 235	Asp	Ile	Ala	Lys	Glu 240
Lys	Arg	Thr	Pro	Ala 245	Pro	Glu	Pro	Glu	Pro 250	Cys	Glu	Ala	Ser	Glu 255	Leu
Pro	Ala	Lys	Arg 260	Leu	Arg	Ser	Ser	Glu 265	Glu	Pro	Thr	Glu	Lys 270	Glu	Pro
Pro	Gly	Gln 275	Leu	Gln	Val	Lys	Ala 280	Gln	Pro	Gln	Ala	Arg 285	Met	Thr	Val
Pro	Lys 290	Gln	Thr	Gln	Thr	Pro 295	Asp	Leu	Leu	Pro	Glu 300	Ala	Leu	Glu	Ala
Gln 305	Val	Leu	Pro	Arg	Phe 310	Gln	Pro	Arg	Val	Leu 315	Gln	Val	Gln	Ala	Gln 320
Val	Gln	Ser	Gln	Thr 325	Gln	Pro	Arg	Ile	Pro 330	Ser	Thr	Asp	Thr	Gln 335	Val
Gln	Pro	Lys	Leu 340	Gln	Lys	Gln	Ala	Gln 345	Thr	Gln	Thr	Ser	Pro 350	Glu	His
Leu	Val	Leu 355	Gln	Gln	Lys	Gln	Val 360	Gln	Pro	Gln	Leu	Gln 365	Gln	Glu	Ala

Glu	Pro 370	Gln	Lys	Gln	Val	Gln 375	Pro	Gln	Val	Gln	Pro 380	Gln	Ala	His	Ser
Gln 385	Gly	Pro	Arg	Gln	Val 390	Gln	Leu	Gln	Gln	Glu 395	Ala	Glu	Pro	Leu	Lys 400
Gln	Val	Gln	Gln	Val 405	His	Thr	Gln	Ala	Gln 410	Pro	Ser	Val	Ġln	Pro 415	Gln
Glu	His	Pro	Pro 420	Ala	Gln	Val	Ser	Val 425	Gln	Pro	Pro	Glu	Gln 430	Thr	His
Glu	Gln	Pro 435	His	Thr	Gln	Pro	Gln 440	Val	Ser	Leu	Leu	Ala 445	Pro	Glu	Gln
Thr	Pro 450	Val	Val	Val	His	Val 455	Cys	Gly	Leu	Glu	Met 460	Pro	Pro	Asp	Ala
Val 465	Glu	Ala	Gly	Gly	Gly 470	Met	Glu	Lys	Thr	Leu 475	Pro	Glu	Pro	Val	Gly 480
Thr	Gln	Val	Ser	Met 485	Glu	Glu	Ile	Gln	Asn 490	Glu	Ser	Ala	Cys	Gly 495	Leu
Asp	Val	Gly	Glu 500	Cys	Glu	Asn	Arg	Ala 505	Arg	Glu	Met	Pro	Gly 510	Val	Trp
Gly	Ala	Gly 515	Gly	Ser	Leu	Lys	Val 520	Thr	Ile	Leu	Gln	Ser 525	Ser	Asp	Ser
Arg	Ala 530	Phe	Ser	Thr	Val	Pro 535	Leu	Thr	Pro	Val	Pro 540	Arg	Pro	Ser	Asp
Ser 545	Val	Ser	Ser	Thr	Pro 550	Ala	Ala	Thr	Ser	Thr 555	Pro	Ser	Lys	Gln	Ala 560
Leu	Gln	Phe	Phe	Cys 565	Tyr	Ile	Cys	Lys	Ala 570	Ser	Cys	Ser	Ser	Gln 575	Gln
Glu	Phe	Gln	Asp 580	His	Met	Ser	Glu	Pro 585	Gln	His	Gln	Gln	Arg 590	Leu	Gly

Glu	IIe	595	His	Met	Ser	GIn	600	Cys	Leu	Leu	Ser	Leu 605	Leu	Pro	Val
Pro	Arg 610	Asp	Val	Leu	Glu	Thr 615	Glu	Asp	Glu	Glu	Pro 620	Pro	Pro	Arg	Arg
Trp 625	Cys	Asn	Thr	Cys	Gln 630	Leu	Tyr	Tyr	Met	Gly 635	Asp	Leu	Ile	Gln	His 640
Arg	Arg	Thr	Gln	Asp 645	His	Lys	Ile	Ala	Lys 650	Gln	Ser	Leu	Arg	Pro 655	Phe
Cys	Thr	Val	Cys 660	Asn	Arg	Tyr	Phe	Lys 665	Thr	Pro	Arg	Lys	Phe 670	Val	Glu
His	Val	Lys 675	Ser	Gln	Gly	His	Lys 680	Asp	Lys	Ala	Lys	Glu 685	Leu	Lys	Ser
Leu	Glu 690	Lys	Glu	Ile	Ala	Gly 695	Gln	Asp	Glu	Asp	His 700	Phe	Ile	Thr	Val
Asp 705	Ala	Val	Gly	Cys	Phe 710	Glu	Gly	Asp	Glu	Glu 715	Glu	Glu	Glu	Asp	Asp 720
Glu	Asp	Glu	Glu	Glu 725	Ile	Glu	Val	Glu	Glu 730	Glu	Leu	Cys	Lys	Gln 735	Val
Arg	Ser	Arg	Asp 740	Ile	Ser	Arg	Glu	Glu 745	Trp	Lys	Gly	Ser	Glu 750	Thr	Tyr
Ser	Pro	Asn 755	Thr	Ala	Tyr	Gly	Val 760	Asp	Phe	Leu	Val	Pro 765	Val	Met	Gly
Tyr	Ile 770	Cys	Arg	Ile	Cys	His 775	Lys	Phe	Tyr	His	Ser 780	Asn	Ser	Gly	Ala
Gln 785	Leu	Ser	His	Cys	Lys 790	Ser	Leu	Gly	His	Phe 795	Glu	Asn	Leu	Gln	Lys 800
Tyr	Lys	Ala	Ala	Lys 805	Asn	Pro	Ser	Pro	Thr 810	Thr	Arg	Pro	Val	Ser 815	Arg

Arg Cys Ala Ile Asn Ala Arg Asn Ala Leu Thr Ala Leu Phe Thr Ser 820 825 Ser Gly Arg Pro Pro Ser Gln Pro Asn Thr Gln Asp Lys Thr Pro Ser 835 Lys Val Thr Ala Arg Pro Ser Gln Pro Pro Leu Pro Arg Arg Ser Thr 855 Arg Leu Lys Thr 865 <210> 62 <211> 841 <212> PRT <213> Homo sapiens <400> 62 10 20 25 Gln Leu Leu Gln Leu Gln Leu Leu Gln Gln Ser Pro Pro Gln Ala 40 Pro Leu Pro Met Ala Val Ser Arg Gly Leu Pro Pro Gln Gln Pro Gln 50 55 Gln Pro Leu Leu Asn Leu Gln Gly Thr Asn Ser Ala Ser Leu Leu Asn 65 70 75 80 Gly Ser Met Leu Gln Arg Ala Leu Leu Gln Gln Leu Gln Gly Leu 90 95 Asp Gln Phe Ala Met Pro Pro Ala Thr Tyr Asp Thr Ala Gly Leu Thr 100 105 Met Pro Thr Ala Thr Leu Gly Asn Leu Arg Gly Tyr Gly Met Ala Ser 115

140

Pro Gly Leu Ala Ala Pro Ser Leu Thr Pro Pro Gln Leu Ala Thr Pro

135

130

Asn 145	Leu	Gln	Gln	Phe	Phe 150	Pro	Gln	Ala	Thr	Arg 155	Gln	Ser	Leu	Leu	Gly 160
Pro	Pro	Pro	Val	Gly 165	Val	Pro	Met	Asn	Pro 170	Ser	Gln	Phe	Asn	Leu 175	Ser
Gly	Arg	Asn	Pro 180	Gln	Lys	Gln	Ala	Arg 185	Thr	Ser	Ser	Ser	Thr 190	Thr	Pro
Asn	Arg	Lys 195	Asp	Ser	Ser	Ser	Gln 200	Thr	Met	Pro	Val	Glu 205	Asp	Lys	Ser
Asp	Pro 210	Pro	Glu	Gly	Ser	Glu 215	Glu	Ala	Ala	Glu	Pro 220	Arg	Met	Asp	Thr
Pro 225	Glu	Asp	Gln	Asp	Leu 230	Pro	Pro	Cys	Pro	Glu 235	Asp	Ile	Ala	Lys	Glu 240
Lys	Arg	Thr	Pro	Ala 245	Pro	Glu	Pro	Glu	Pro 250	Cys	Glu	Ala	Ser	Glu 255	Leu
Pro	Ala	Lys	Arg 260	Leu	Arg	Ser	Ser	Glu 265	Glu	Pro	Thr	Glu	Lys 270	Glu	Pro
Pro	Gly	Gln 275	Leu	Gln	Val	Lys	Ala 280	Gln	Pro	Gln	Ala	Arg 285	Met	Thr	Val
Pro	Lys 290	Gln	Thr	Gln	Thr	Pro 295	Asp	Leu	Leu	Pro	Glu 300	Ala	Leu	Glu	Ala
Gln 305	Val	Leu	Pro	Arg	Phe 310	Gln	Pro	Arg	Val	Leu 315	Gln	Val	Gln	Ala	Gln 320
Val	Gln	Ser	Gln	Thr 325	Gln	Pro	Arg	Ile	Pro 330	Ser	Thr	Asp	Thr	Gln 335	Val
Gln	Pro	Lys	Leu 340	Gln	Lys	Gln	Ala	Gln 345	Thr	Gln	Thr	Ser	Pro 350	Glu	His
Leu	Val	Leu 355	Gln	Gln	Lys	Gln	Val 360	Gln	Pro	Gln	Leu	Gln 365	Gln	Glu	Ala

Glu	Pro 370	Gln	Lys	Gln	Val	Gln 375	Pro	Gln	Val	His	Thr 380	Gln	Ala	Gln	Pro
Ser 385	Val	Gln	Pro	Gln	Glu 390	His	Pro	Pro	Ala	Gln 395	Val	Ser	Val	Gln	Pro 400
Pro 	Glu	Gln	Thr	His 405	Glu	Gln	Pro	His	Thr 410	Gln	Pro	Gln	Val	Ser 415	Leu
Leu	Ala	Pro	Glu 420	Gln	Thr	Pro	Val	Val 425	Val	His	Val	Cys	Gly 430	Leu	Glu
Met	Pro	Pro 435	Asp	Ala	Val	Glu	Ala 440	Gly	Gly	Gly	Met	Glu 445	Lys	Thr	Leu
Pro	Glu 450	Pro	Val	Gly	Thr	Gln 455	Val	Ser	Met	Glu	Glu 460	Ile	Gln	Asn	Glu
Ser 465	Ala	Cys	Gly	Leu	Asp 470	Val	Gly	Glu	Cys	Glu 475	Asn	Arg	Ala	Arg	Glu 480
Met	Pro	Gly	Val	Trp 485	Gly	Ala	Gly	Gly	Ser 490	Leu	Lys	Val	Thr	Ile 495	Leu
Gln	Ser	Ser	Asp 500	Ser	Arg	Ala	Phe	Ser 505	Thr	Val	Pro	Leu	Thr 510	Pro	Val
Pro	Arg	Pro 515	Ser	Asp	Ser	Val	Ser 520	Ser	Thr	Pro	Ala	Ala 525	Thr	Ser	Thr
Pro	Ser 530	Lys	Gln	Ala	Leu	Gln 535	Phe	Phe	Cys	Tyr	Ile 540	Cys	Lys	Ala	Ser
Cys 545	Ser	Ser	Gln	Gln	Glu 550	Phe	Gln	Asp	His	Met 555	Ser	Glu	Pro	Gln	His 560
Gln	Gln	Arg	Leu	Gly 565	Glu	Ile	Gln	His	Met 570	Ser	Gln	Ala	Cys	Leu 575	Leu
Ser	Leu	Leu	Pro 580	Val	Pro	Arg	Asp	Val 585	Leu	Glu	Thr	Glu	Asp 590	Glu	Glu

Pro	Pro	Pro 595	Arg	Arg	Trp	Cys	Asn 600	Thr	Cys	Gln	Leu	Tyr 605	Tyr	Met	Gly
Asp	Leu 610	Ile	Gln	His	Arg	Arg 615	Thr	Gln	Asp	His	Lys 620	Ile	Ala	Lys	Gln
Ser 625	Leu	Arg	Pro	Phe	Cys 630	Thr	Val	Cys	Asn	Arg 635	Tyr	Phe	Lys	Thr	Pro 640
Arg	Lys	Phe	Val	Glu 645	His	Val	Lys	Ser	Gln 650	Gly	His	Lys	Asp	Lys 655	Ala
Lys	Glu	Leu	Lys 660	Ser	Leu	Glu	Lys	Glu 665	Ile	Ala	Gly	Gln	Asp 670	Glu	Asp
His	Phe	Ile 675	Thr	Val	Asp	Ala	Val 680	Gly	Cys	Phe	Glu	Gly 685	Asp	Glu	Glu
Glu	Glu 690	Glu	Asp	Asp	Glu	Asp 695	Glu	Glu	Glu	Ile	Glu 700	Val	Glu	Glu	Glu
Leu 705	Cys	Lys	Gln	Val	Arg 710	Ser	Arg	Asp	Ile	Ser 715	Arg	Glu	Glu	Trp	Lys 720
Gly	Ser	Glu	Thr	Tyr 725	Ser	Pro	Asn	Thr	Ala 730	Tyr	Gly	Val	Asp	Phe 735	Leu
Val	Pro	Val	Met 740	Gly	Tyr	Ile	Cys	Arg 745	Ile	Cys	His	Lys	Phe 750	Tyr	His
Ser	Asn	Ser 755	Gly	Ala	Gln	Leu	Ser 760	His	Cys	Lys	Ser	Leu 765	Gly	His	Phe
Glu	Asn 770	Leu	Gln	Lys	Tyr	Lys 775	Ala	Ala	Lys	Asn	Pro 780	Ser	Pro	Thr	Thr
Arg 785	Pro	Val	Ser	Arg	Arg 790	Cys	Ala	Ile	Asn	Ala 795	Arg	Asn	Ala	Leu	Thr 800
Ala	Leu	Phe	Thr	Ser 805	Ser	Gly	Arg	Pro	Pro 810	Ser	Gln	Pro	Asn	Thr 815	Gln
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820 825 830

Pro Arg Arg Ser Thr Arg Leu Lys Thr 835 840

<210> 63

<211> 785

<212> PRT

<213> Homo sapiens

<400> 63

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Pro Leu Pro Met Ala Val Ser Arg Gly Leu Pro Pro Gln Gln Pro Gln 50 55 60

Gln Pro Leu Leu Asn Leu Gln Gly Thr Asn Ser Ala Ser Leu Leu Asn 65 70 75 80

Gly Ser Met Leu Gln Arg Ala Leu Leu Leu Gln Gln Leu Gln Gly Leu 85 90 95

Asp Gln Phe Ala Met Pro Pro Ala Thr Tyr Asp Thr Ala Gly Leu Thr 100 105 110

Met Pro Thr Ala Thr Leu Gly Asn Leu Arg Gly Tyr Gly Met Ala Ser 115 120 125

Pro Gly Leu Ala Ala Pro Ser Leu Thr Pro Pro Gln Leu Ala Thr Pro 130 135 140

Asn Leu Gln Gln Phe Phe Pro Gln Ala Thr Arg Gln Ser Leu Leu Gly 145 150 155 160

Pro Pro Pro Val Gly Val Pro Met Asn Pro Ser Gln Phe Asn Leu Ser 165 170 175

Gly	Arg	Asn	Pro 180	Gln	Lys	Gln	Ala	Arg 185	Thr	Ser	Ser	Ser	Thr 190	Thr	Pro
Asn	Arg	Lys 195	Asp	Ser	Ser	Ser	Gln 200	Thr	Met	Pro	Val	Glu 205	Asp	Lys	Ser
Asp	Pro 210	Pro	Glu	Gly	Ser	Glu 215	Glu	Ala	Ala	Glu	Pro 220	Arg	Met	Asp	Thr
Pro 225	Glu	Asp	Gln	Asp	Leu 230	Pro	Pro	Cys	Pro	Glu 235	Asp	Ile	Ala	Lys	Glu 240
Lys	Arg	Thr	Pro	Ala 245	Pro	Glu	Pro	Glu	Pro 250	Cys	Glu	Ala	Ser	Glu 255	Leu
Pro	Ala	Lys	Arg 260	Leu	Arg	Ser	Ser	Glu 265	Glu	Pro	Thr	Glu	Lys 270	Glu	Pro
Pro	Gly	Gln 275	Leu	Gln	Val	Lys	Ala 280	Gln	Pro	Gln	Ala	Arg 285	Met	Thr	Val
Pro	Lys 290	Gln	Thr	Gln	Thr	Pro 295	Asp	Leu	Leu	Pro	Glu 300	Ala	Leu	Glu	Ala
Gln 305	Val	Leu	Pro	Arg	Phe 310	Gln	Pro	Arg	Val	Leu 315	Gln	Val	Gln	Ala	Pro 320
Gln	Val	His	Thr	Gln 325	Ala	Gln	Pro	Ser	Val 330	Gln	Pro	Gln	Glu	His 335	Pro
Pro	Ala	Gln	Val 340	Ser	Val	Gln	Pro	Pro 345	Glu	Gln	Thr	His	Glu 350	Gln	Pro
His	Thr	Gln 355	Pro	Gln	Val	Ser	Leu 360	Leu	Ala	Pro	Glu	Gln 365	Thr	Pro	Val
Val	Val 370	His	Val	Cys	Gly	Leu 375	Glu	Met	Pro	Pro	Asp 380	Ala	Val	Glu	Ala
Gly 385	Gly	Gly	Met	Glu	Lys 390	Thr	Leu	Pro	Glu	Pro 395	Val	Gly	Thr	Gln	Val 400

Ser Met Glu	Glu Ile 405	Gln Asn	Glu S	Ser Ala 410	Cys Gly	Leu Ası	Val 415	Gly
Glu Cys Glu	Asn Arg 420	Ala Arg		Met Pro 425	Gly Val	Trp Gly		Gly
Gly Ser Leu 435	_	Thr Ile	Leu (Gln Ser	Ser Asp	Ser Arg	, Ala	Phe
Ser Thr Val 450	Pro Leu	Thr Pro 455		Pro Arg	Pro Ser 460	Asp Ser	Val	Ser
Ser Thr Pro	Ala Ala	Thr Ser	Thr I	Pro Ser	Lys Gln 475	Ala Leu	ı Gln	Phe 480
Phe Cys Tyr	Ile Cys 485	Lys Ala	Ser (Cys Ser 490	Ser Gln	Gln Glı	1 Phe 495	Gln
Asp His Met	Ser Glu 500	Pro Gln		Gln Gln 505	Arg Leu	Gly Glu 510		Gln
His Met Ser 515		Cys Leu	Leu 8 520	Ser Leu	Leu Pro	Val Pro	Arg	Asp
Val Leu Glu 530	Thr Glu	Asp Glu 535		Pro Pro	Pro Arg 540	Arg Tr	Cys	Asn
Thr Cys Gln 545	Leu Tyr	Tyr Met 550	Gly A	Asp Leu	Ile Gln 555	His Arg	, Arg	Thr 560
Gln Asp His	Lys Ile 565	Ala Lys	Gln S	Ser Leu 570	Arg Pro	Phe Cys	575	Val
Cys Asn Arg	Tyr Phe 580	Lys Thr		Arg Lys 585	Phe Val	Glu His		Lys
Ser Gln Gly 595	-	Asp Lys	Ala I 600	Lys Glu	Leu Lys	Ser Leu 605	ı Glu	Lys
Glu Ile Ala 610	Gly Gln	Asp Glu 615	Asp H	His Phe	Ile Thr 620	Val Asp	Ala	Val
Gly Cys Phe	Glu Gly	Asp Glu	Glu G	Glu Glu	Glu Asp	Asp Glu	Asp	Glu

Glu Glu Ile Glu Val Glu Glu Glu Leu Cys Lys Gln Val Arg Ser Arg 645 650 655

Asp Ile Ser Arg Glu Glu Trp Lys Gly Ser Glu Thr Tyr Ser Pro Asn 660 665 670

Thr Ala Tyr Gly Val Asp Phe Leu Val Pro Val Met Gly Tyr Ile Cys 675 680 685

Arg Ile Cys His Lys Phe Tyr His Ser Asn Ser Gly Ala Gln Leu Ser 690 695 700

His Cys Lys Ser Leu Gly His Phe Glu Asn Leu Gln Lys Tyr Lys Ala 705 710 715 720

Ala Lys Asn Pro Ser Pro Thr Thr Arg Pro Val Ser Arg Arg Cys Ala 725 730 735

Ile Asn Ala Arg Asn Ala Leu Thr Ala Leu Phe Thr Ser Ser Gly Arg
740 745 750

Pro Pro Ser Gln Pro Asn Thr Gln Asp Lys Thr Pro Ser Lys Val Thr 755 760 765

Ala Arg Pro Ser Gln Pro Pro Leu Pro Arg Arg Ser Thr Arg Leu Lys
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Thr 785

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<211> 889

<212> PRT

<213> Homo sapiens

<400> 64

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Pro	Leu 50	Pro	Met	Ala	Val	Ser 55	Arg	Gly	Leu	Pro	Pro 60	Gln	Gln	Pro	Gln
Gln 65	Pro	Leu	Leu	Asn	Leu 70	Gln	Gly	Thr	Asn	Ser 75	Ala	Ser	Leu	Leu	Asn 80
Gly	Ser	Met	Leu	Gln 85	Arg	Ala	Leu	Leu	Leu 90	Gln	Gln	Leu	Gln	Gly 95	Leu
Asp	Gln	Phe	Ala 100	Met	Pro	Pro	Ala	Thr 105	Tyr	Asp	Thr	Ala	Gly 110	Leu	Thr
Met	Pro	Thr 115	Ala	Thr	Leu	Gly	Asn 120	Leu	Arg	Gly	Tyr	Gly 125	Met	Ala	Ser
Pro	Gly 130	Leu	Ala	Ala	Pro	Ser 135	Leu	Thr	Pro	Pro	Gln 140	Leu	Ala	Thr	Pro
Asn 145	Leu	Gln	Gln	Phe	Phe 150	Pro	Gln	Ala	Thr	Arg 155	Gln	Ser	Leu	Leu	Gly 160
Pro	Pro	Pro	Val	Gly 165	Val	Pro	Met	Asn	Pro 170	Ser	Gln	Phe	Asn	Leu 175	Ser
Gly	Arg	Asn	Pro 180	Gln	Lys	Gln	Ala	Arg 185	Thr	Ser	Ser	Ser	Thr 190	Thr	Pro
Asn	Arg	Lys 195	Asp	Ser	Ser	Ser	Gln 200	Thr	Met	Pro	Val	Glu 205	Asp	Lys	Ser
Asp	Pro 210	Pro	Glu	Gly	Ser	Glu 215	Glu	Ala	Ala	Glu	Pro 220	Arg	Met	Asp	Thr
Pro 225	Glu	Asp	Gln	Asp	Leu 230	Pro	Pro	Cys	Pro	Glu 235	Asp	Ile	Ala	Lys	Glu 240
Lys	Arg	Thr	Pro	Ala 245	Pro	Glu	Pro	Glu	Pro 250	Cys	Glu	Ala	Ser	Glu 255	Leu

Pro	Ala	Lys	Arg 260	Leu	Arg	Ser	Ser	Glu 265	Glu	Pro	Thr	Glu	Lys 270	Glu	Pro
Pro	Gly	Gln 275	Leu	Gln	Val	Lys	Ala 280	Gln	Pro	Gln	Ala	Arg 285	Met	Thr	Val
Pro	Lys 290	Gln	Thr	Gln	Thr	Pro 295	Asp	Leu	Leu	Pro	Glu 300	Ala	Leu	Glu	Ala
Gln 305	Val	Leu	Pro	Arg	Phe 310	Gln	Pro	Arg	Val	Leu 315	Gln	Val	Gln	Ala	Gln 320
Val	Gln	Ser	Gln	Thr 325	Gln	Pro	Arg	Ile	Pro 330	Ser	Thr	Asp	Thr	Gln 335	Val
Gln	Pro	Lys	Leu 340	Gln	Lys	Gln	Ala	Gln 345	Thr	Gln	Thr	Ser	Pro 350	Glu	His
Leu	Val	Leu 355	Gln	Gļn	Lys	Gln	Val 360	Gln	Pro	Gln	Leu	Gln 365	Gln	Glu	Ala
Glu	Pro 370	Gln	Lys	Gln	Val	Gln 375	Pro	Gln	Val	Gln	Pro 380	Gln	Ala	His	Ser
Gln 385	Gly	Pro	Arg	Gln	Val 390	Gln	Leu	Gln	Gln	Glu 395	Ala	Glu	Pro	Leu	Lys 400
Gln	Val	Gln	Pro	Gln 405	Val	Gln	Pro	Gln	Ala 410	His	Ser	Gln	Pro	Pro 415	Arg
Gln	Val	Gln	Leu 420	Gln	Leu	Gln	Lys	Gln 425	Val	Gln	Thr	Gln	Thr 430	Tyr	Pro
Gln	Val	His 435	Thr	Gln	Ala	Gln	Pro 440	Ser	Val	Gln	Pro	Gln 445	Glu	His	Pro
Pro	Ala 450	Gln	Val	Ser	Val	Gln 455	Pro	Pro	Glu	Gln	Thr 460	His	Glu	Gln	Pro
His 465	Thr	Gln	Pro	Gln	Val 470	Ser	Leu	Leu	Ala	Pro 475	Glu	Gln	Thr	Pro	Val 480
Val	Val	His	Val	Cys	Gly	Leu	Glu	Met	Pro	Pro	Asp	Ala	Val	Glu	Ala

495 490 495

Gly	Gly	Gly	Met 500	Glu	Lys	Thr	Leu	Pro 505	Glu	Pro	Val	Gly	Thr 510	Gln	Val
Ser	Met	Glu 515	Glu	Ile	Gln	Asn	Glu 520	Ser	Ala	Cys	Gly	Leu 525	Asp	Val	Gly
Glu	Cys 530	Glu	Asn	Arg	Ala	Arg 535	Glu	Met	Pro	Gly	Val 540	Trp	Gly	Ala	Gly
Gly 545	Ser	Leu	Lys	Val	Thr 550	Ile	Leu	Gln	Ser	Ser 555	Asp	Ser	Arg	Ala	Phe 560
Ser	Thr	Val	Pro	Leu 565	Thr	Pro	Val	Pro	Arg 570	Pro	Ser	Asp	Ser	Val 575	Ser
Ser	Thr	Pro	Ala 580	Ala	Thr	Ser	Thr	Pro 585	Ser	Lys	Gln	Ala	Leu 590	Gln	Phe
Phe	Cys	Tyr 595	Ile	Cys	Lys	Ala	Ser 600	Cys	Ser	Ser	Gln	Gln 605	Glu	Phe	Gln
Asp	His 610	Met	Ser	Glu	Pro	Gln 615	His	Gln	Gln	Arg	Leu 620	Gly	Glu	Ile	Gln
His 625	Met	Ser	Gln	Ala	Cys 630	Leu	Leu	Ser	Leu	Leu 635	Pro	Val	Pro	Arg	Asp 640
Val	Leu	Glu	Thr	Glu 645	Asp	Glu	Glu	Pro	Pro 650	Pro	Arg	Arg	Trp	Cys 655	Asn
Thr	Cys	Gln	Leu 660	Tyr	Tyr	Met	Gly	Asp 665	Leu	Ile	Gln	His	Arg 670	Arg	Thr
Gln	Asp	His 675	Lys	Ile	Ala	Lys	Gln 680	Ser	Leu	Arg	Pro	Phe 685	Cys	Thr	Val
Cys	Asn 690	Arg	Tyr	Phe	Lys	Thr 695	Pro	Arg	Lys	Phe	Val 700	Glu	His	Val	Lys
Ser 705	Gln	Gly	His	Lys	Asp 710	Lys	Ala	Lys	Glu	Leu 715	Lys	Ser	Leu	Glu	Lys 720

Glu Ile Ala Gly Gln Asp Glu Asp His Phe Ile Thr Val Asp Ala Val 725 730 735 Gly Cys Phe Glu Gly Asp Glu Glu Glu Glu Asp Asp Glu Asp Glu 745 Glu Glu Ile Glu Val Arg Ser Arg Asp Ile Ser Arg Glu Glu Trp Lys 760 Gly Ser Glu Thr Tyr Ser Pro Asn Thr Ala Tyr Gly Val Asp Phe Leu 775 Val Pro Val Met Gly Tyr Ile Cys Arg Ile Cys His Lys Phe Tyr His 785 790 795 Ser Asn Ser Gly Ala Gln Leu Ser His Cys Lys Ser Leu Gly His Phe 805 810 Glu Asn Leu Gln Lys Tyr Lys Ala Ala Lys Asn Pro Ser Pro Thr Thr 820 825 830 Arg Pro Val Ser Arg Arg Cys Ala Ile Asn Ala Arg Asn Ala Leu Thr 835 840 845 Ala Leu Phe Thr Ser Ser Gly Arg Pro Pro Ser Gln Pro Asn Thr Gln 855 Asp Lys Thr Pro Ser Lys Val Thr Ala Arg Pro Ser Gln Pro Pro Leu 870 875 Pro Arg Arg Ser Thr Arg Leu Lys Thr 885 <210> 65 <211> 873 <212> PRT <213> Homo sapiens

10

Met Phe Ser Gln Gln Gln Gln Leu Gln Gln Gln Gln Gln Leu

<400> 65

5

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Gln	Leu	Leu 35	Gln	Leu	Gln	Gln	Leu 40	Leu	Gln	Gln	Ser	Pro 45	Pro	Gln	Ala
Pro	Leu 50	Pro	Met	Ala	Val	Ser 55	Arg	Gly	Leu	Pro	Pro 60	Gln	Gln	Pro	Gln
Gln 65	Pro	Leu	Leu	Asn	Leu 70	Gln	Gly	Thr	Asn	Ser 75	Ala	Ser	Leu	Leu	Asn 80
Gly	Ser	Met	Leu	Gln 85	Arg	Ala	Leu	Leu	Leu 90	Gln	Gln	Leu	Gln	Gly 95	Asn
Leu	Arg	Gly	Tyr 100	Gly	Met	Ala	Ser	Pro 105	Gly	Leu	Ala	Ala	Pro 110	Ser	Leu
Thr	Pro	Pro 115	Gln	Leu	Ala	Thr	Pro 120	Asn	Leu	Gln	Gln	Phe 125	Phe	Pro	Gln
Ala	Thr 130	Arg	Gln	Ser	Leu	Leu 135	Gly	Pro	Pro	Pro	Val 140	Gly	Val	Pro	Met
Asn 145	Pro	Ser	Gln	Phe	Asn 150	Leu	Ser	Gly	Arg	Asn 155	Pro	Gln	Lys	Gln	Ala 160
	Thr			165					170					175	
	Met		180					185					190		
	Ala	195					200					205			
-	Pro 210					215					220				
225	Pro				230					235					240
GID	Glu	Pro	'I'hr	(4 11	LVS	GIN	Pro	Pro	(+1V	GID	Len	(+ln	val	LiVS	Ala

245	250	255
243	250	255

Gln	Pro	Gln	Ala 260	Arg	Met	Thr	Val	Pro 265	Lys	Gln	Thr	Gln	Thr 270	Pro	Asp
Leu	Leu	Pro 275	Glu	Ala	Leu	Glu	Ala 280	Gln	Val	Leu	Pro	Arg 285	Phe	Gln	Pro
Arg	Val 290	Leu	Gln	Val	Gln	Ala 295	Gln	Val	Gln	Ser	Gln 300	Thr	Gln	Pro	Arg
Ile 305	Pro	Ser	Thr	Asp	Thr 310	Gln	Val	Gln	Pro	Lys 315	Leu	Gln	Lys	Gln	Ala 320
Gln	Thr	Gln	Thr	Ser 325	Pro	Glu	His	Leu	Val 330	Leu	Gln	Gln	Lys	Gln 335	Val
Gln	Pro	Gln	Leu 340	Gln	Gln	Glu	Ala	Glu 345	Pro	Gln	Lys	Gln	Val 350	Gln	Pro
Gln	Val	Gln 355	Pro	Gln	Ala	His	Ser 360	Gln	Gly	Pro	Arg	Gln 365	Val	Gln	Leu
Gln	Gln 370	Glu	Ala	Glu	Pro	Leu 375	Lys	Gln	Val	Gln	Pro 380	Gln	Val	Gln	Pro
Gln 385	Ala	His	Ser	Gln	Pro 390	Pro	Arg	Gln	Val	Gln 395	Leu	Gln	Leu	Gln	Lys 400
Gln	Val	Gln	Thr	Gln 405	Thr	Tyr	Pro	Gln	Val 410	His	Thr	Gln	Ala	Gln 415	Pro
			420		Glu			425					430		
		435			Glu		440					445			
Leu	Ala 450	Pro	Glu	Gln	Thr	Pro 455	Val	Val	Val	His	Val 460	Суѕ	Gly	Leu	Glu
Met 465	Pro	Pro	Asp	Ala	Val 470	Glu	Ala	Gly	Gly	Gly 475	Met	Glu	Lys	Thr	Leu 480

Pro	Glu	Pro	Val	Gly 485	Thr	Gln	Val	Ser	Met 490	Glu	Glu	Ile	Gln	Asn 495	Glu
Ser	Ala	Cys	Gly 500	Leu	Asp	Val	Gly	Glu 505	Cys	Glu	Asn	Arg	Ala 510	Arg	Glu
Met	Pro	Gly 515	Val	Trp	Gly	Ala	Gly 520	Gly	Ser	Leu	Lys	Val 525	Thr	Ile	Leu
Gln	Ser 530	Ser	Asp	Ser	Arg	Ala 535	Phe	Ser	Thr	Val	Pro 540	Leu	Thr	Pro	Val
Pro 545	Arg	Pro	Ser	Asp	Ser 550	Val	Ser	Ser	Thr	Pro 555	Ala	Ala	Thr	Ser	Thr 560
Pro	Ser	Lys	Gln	Ala 565	Leu	Gln	Phe	Phe	Cys 570	Tyr	Ile	Cys	Lys	Ala 575	Ser
Cys	Ser	Ser	Gln 580	Gln	Glu	Phe	Gln	Asp 585	His	Met	Ser	Glu	Pro 590	Gln	His
Gln	Gln	Arg 595	Leu	Gly	Glu	Ile	Gln 600	His	Met	Ser	Gln	Ala 605	Cys	Leu	Leu
Ser	Leu 610	Leu	Pro	Val	Pro	Arg 615	Asp	Val	Leu	Glu	Thr 620	Glu	Asp	Glu	Glu
Pro 625	Pro	Pro	Arg	Arg	Trp 630	Cys	Asn	Thr	Cys	Gln 635	Leu	Tyr	Tyr	Met	Gly 640
Asp	Leu	Ile	Gln	His 645	Arg	Arg	Thr	Gln	Asp 650	His	Lys	Ile	Ala	Lys 655	Gln
Ser	Leu	Arg	Pro 660	Phe	Суз	Thr	Val	Cys 665	Asn	Arg	Tyr	Phe	Lys 670	Thr	Pro
Arg	Lys	Phe 675	Val	Glu	His	Val	Lys 680	Ser	Gln	Gly	His	Lys 685	Asp	Lys	Ala
Lys	Glu 690	Leu	Lys	Ser	Leu	Glu 695	Lys	Glu	Ile	Ala	Gly 700	Gln	Asp	Glu	Asp

His 705	Phe	Ile	Thr	Val	Asp 710	Ala	Val	Gly	Cys	Phe 715	Glu	Gly	Asp	Glu	Glu 720	
Glu	Glu	Glu	Asp	Asp 725	Glu	Asp	Glu	Glu	Glu 730	Ile	Glu	Val	Glu	Glu 735	Glu	
Leu	Cys	Lys	Gln 740	Val	Arg	Ser	Arg	Asp 745	Ile	Ser	Arg	Glu	Glu 750	Trp	Lys	
Gly	Ser	Glu 755	Thr	Tyr	Ser	Pro	Asn 760	Thr	Ala	Tyr	Gly	Val 765	Asp	Phe	Leu	
Val	Pro 770	Val [·]	Met	Gly	Tyr	Ile 775	Cys	Arg	Ile	Cys	His 780	Lys	Phe	Tyr	His	
Ser 785	Asn	Ser	Gly	Ala	Gln 790	Leu	Ser	His	Cys	Lys 795	Ser	Leu	Gly	His	Phe 800	
Glu	Asn	Leu	Gln	Lys 805	Tyr	Lys	Ala	Ala	Lys 810	Asn	Pro	Ser	Pro	Thr 815	Thr	
Arg	Pro	Val	Ser 820	Arg	Arg	Cys	Ala	Ile 825	Asn	Ala	Arg	Asn	Ala 830	Leu	Thr	
Ala	Leu	Phe 835	Thr	Ser	Ser	Gly	Arg 840	Pro	Pro	Ser	Gln	Pro 845	Asn	Thr	Gln	
Asp	Lys 850	Thr	Pro	Ser	Lys	Val 855	Thr	Ala	Arg	Pro	Ser 860	Gln	Pro	Pro	Leu.	
Pro 865	Arg	Arg	Ser	Thr	Arg 870	Leu	Lys	Thr								
	1> 2 2> 1	66 2821 DNA Homo	sap	iens												
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cccatggctg tcagccgggg gctccccccg cagcagccac agcagccgct tctgaatctc 18										180						

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<212> DNA

<213> Homo sapiens

<400> 67

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840

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<212> DNA

<213> Homo sapiens

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- <210> 70
- <211> 2754
- <212> DNA
- <213> Homo sapiens

<400> 70

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<400> 71

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<210> 71

<211> 2587

<212> DNA

<213> Homo sapiens

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<212> DNA

<213> Homo sapiens

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